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FROM

The Bureau.

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BUREAU OF THE AMERICAN REPUBLICS,
WASHINGTON, U. S. A.

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NICARAGUA.

BULLETIN NO. 51. 1892.
[Revised to August 1, 1893.]

GOVERNMENT PALACE, MANAGUA.

Chapter I.

GEOGRAPHY AND PHYSICAL FEATURES.

Nicaragua, from the fact that it offers a ready means of communication between the two great oceans, holds an important position among the Central American Republics. Its territory is comprised between the limits of 10° 41′ and 15° north latitude, and 83° 15′ and 87°·40′ west longitude from Greenwich. The boundaries are; on the east, the Caribbean Sea; on the south, the Republic of Costa Rica; on the west, the Pacific Ocean, and on the north, the Republic of Honduras. It contains about 40,000 square miles, or an area nearly equal to that comprised in the combined territories of the States of Maine, Massachusetts, Rhode Island, and Connecticut. In shape, it resembles an isosceles triangle, the base of which is the Caribbean coast and the apex the cone of the volcano of Cosigüina, on the bay of Fonseca.

The boundary between Nicaragua and Costa Rica was long in dispute, but was defined by a treaty between the two Republics, which was concluded on April 15, 1858. The claim having been made by Nicaragua that this treaty was not valid, the question was submitted to the arbitration of President Cleveland, who made an award on March 22, 1888. This decision, accepted by both parties, declared the treaty to be valid, and gave interpretations of all doubtful points.

The Caribbean coast of Nicaragua measures about 300 miles from north to south. Of this extent, 150 miles is comprised in the Mosquito Reservation, the limits of which, as settled by the treaty of 1860, are inclosed in a line commencing at the mouth

of the river Rama, in the Caribbean Sea, thence up the midcourse of that river to its source, and from such source due west to the meridian of 84° 15′ longitude west from Greenwich; thence due north up the said meridian to the river Hueso, and down the midcourse of that river to the sea, and thence southerly along the shore of the Caribbean Sea to the point of commencement, at the mouth of the river Rama. This territory contains about 7,000 square miles of the richest, most fertile, and valuable part of Central America.

The ports of entry on the Atlantic side are San Juan del Norte, or Greytown, as it was named by the English; Cabo de Gracias á Dios, and Bluefields. The port of San Juan del Norte was formerly a splendid harbor, having 30 feet of water at low tide, but in 1855 the river San Juan burst through its left bank near the Colorado and discharged a large portion of its water into that stream. Consequently the harbor at its mouth, no longer experiencing the scouring effects of the quantity of water that had formerly poured into it, began to fill with muddy deposits until it became so silted up as to be useless. Since the Nicaragua Canal Company selected it as their Atlantic terminus, they have built a breakwater, and by this means, combined with powerful dredges, have so improved the harbor that ocean steamers are again able to enter, and it will soon be fit to receive the largest vessels. The port of Gracias á Dios was also in former times an excellent harbor, but now has scarcely 15 feet of water at the deepest place. Vessels have to cast anchor at some distance outside the bar, and therefore the landing of passengers and merchandise is difficult, and in some cases attended with danger.

In consequence of the great development of the trade in bananas and other tropical fruits, and the establishment of regular lines of steamers from the United States, Bluefields is assuming a position of importance as a port. The lagoon has an area of 100 square miles and in some parts has considerable depth, although

it suffers from the deposit of sediment brought down by the Bluefields or Mico and other smaller rivers which empty into it.

The Pacific coast of Nicaragua is about 200 miles in length, from the Gulf of Fonseca to the bay of Salinas. The water is deep close to the shore, while neither reefs nor shoals render navigation dangerous, and the volcanic peaks, visible at a distance of many miles, form admirable landmarks for the guidance of navigators. The heavy swell of the mighty Pacific rolls in high on the sandy beach and forms a constant heavy surf, called by the natives "La Tasca," affording splendid facilities for sea bathing.

The bay of Fonseca, of which Nicaragua possesses a share with the neighboring republics of Salvador and Honduras, is the finest port on the entire western coast of America. It contains several good interior harbors, and has the appearance of having once been an inland lake, like those of Nicaragua and Managua, which has been opened to the ocean by some mighty convulsion of nature which has torn asunder its rocky barrier and left an outlet 18 miles in width. The southern shore of this great bay, which belongs to Nicaragua, is about 25 miles in length. Here, a wide creek or inlet called "El Estero Real" extends some 50 miles into the interior. At 30 miles from its mouth, it is 3 fathoms in depth. Whenever the Interoceanic Railroad of Honduras is completed to La Brea, on the bay of Fonseca, this inlet will form an admirable avenue of commerce between it and Nicaragua.

The Nicaraguan ports of entry on the Pacific side are Corinto and San Juan del Sur. The harbor of Corinto is one of the best-protected ports on the coast. It is a part of the ancient port of Realejo, which was in former times one of the best in Spanish America, but has now become shallow and in many places overgrown with mangrove trees. Corinto is the terminus of the railroad from Lake Managua and is regularly visited by the Pacific Mail Company's steamers. Brito is not a port of entry, but has been selected as the Pacific terminus of the Nicaragua Canal, and

will be thoroughly improved and adapted by the company to accommodate the immense traffic which it expects to receive.

San Juan del Sur has a small but deep and safe harbor, with an entrance about half a mile in width between piles of rock more than 400 feet in height. It was brought into prominence from 1851 to 1855 as the Pacific port of the Nicaragua transit line, by way of the lake and San Juan River from the Caribbean coast, by which many thousands of American passengers traveled to reach the Eldorado of California.

The bay of Salinas forms a beautiful, deep port, nearly circular in shape, embracing an area of about 8 square miles. The center of this bay marks the western terminus of the boundary line between Nicaragua and Costa Rica.

The topographical features of Nicaragua are largely determined by two mountain ranges, which traverse the Republic in a general direction from northwest to southeast. The western or coast range commences in the high regions of Guatemala, and extending through Guatemala, Salvador, Honduras, and Nicaragua terminates in the great knot or group of Costa Rican mountains. It follows the general direction of the coast at a distance from the sea varying from 10 to 20 miles, to which fact it is due that there are no considerable streams discharging from that slope into the Pacific Ocean. This is the principal line of volcanic energy and is marked by the volcanoes of Cosigüina, 3,000 feet in height, which has been inactive since its tremendous eruption in 1835; Madera, 4,590 feet; Ometepe, 5,747 feet; Mombacho, 4,583 feet; Masaya, 2,972 feet; Momotombo, 6,121 feet, and El Viejo, 6,256 feet, all these altitudes being calculated from the surface of the surrounding country and not from the sea level. There are also many other lesser volcanic peaks, some of hem showing evidences of recent activity and others which bear no signs of even comparatively late eruptions and of which no traditions of such energy are extant.

The eastern range enters Nicaragua from Honduras and extends in a general southeastern direction until it reaches the San Juan River, at a point about 50 miles from its mouth. It sends out numerous spurs and extensions towards the Caribbean Sea. Between these flow the many rivers and streams that abundantly irrigate the country on their way to the coast. Between these two ranges, lies the great interior basin, comprising an area of nearly 300 miles in length by 100 wide, in which are situated the two beautiful lakes which form such important features in the physical geography and economic conditions of the Republic.

Lake Nicaragua, the ancient "Cocibolca," the largest of these, is about 92 miles in length by 34 in width. It varies considerably in depth, from 83 feet in places to 12 in others. On its northwestern shore, stands the ancient city of Granada, long the rival of Leon for the site of the national capital. A few miles from Granada, is the extinct volcanic peak of Mombacho. Forty miles distant, and near the same shore, is the city of Rivas, built on or near the site of the aboriginal capital. The lake receives the waters of the Rio Frio, which has its source in Costa Rica, and of several smaller streams. Its outlet is the river San Juan, flowing to the Caribbean Sea, the waters of which and part of its bed will be utilized to form the interoceanic canal. There are several islands in the lake, the largest of which is Ometepe, where the two volcanic peaks of Ometepe and Madera form conspicuous objects in the scenery. This island has two towns and is inhabited by a considerable Indian population.

Lake Managua is about 32 miles long by 16 in width. Its level is about 134 feet above the sea, or 24 feet above Lake Nicaragua. Two points jut out into it from opposite sides, near its center, and give it somewhat the shape of the figure 8. It is not so deep as Lake Nicaragua, but a line of five steamers is now employed on its waters to accommodate the constantly increasing traffic between Momotombo, the terminus of the railroad from

Corinto, on the Pacific coast, and Managua, the capital of the Republic, which is situated on the southern shore of the lake. The towns of Mateare and Tipitapa are also on its southern shore.

The fluvial system of Nicaragua lies almost entirely to the eastward of the mountain ranges and consists of numerous rivers, varying in volume according to the length of their course. The principal are the Coco or Wauks, the Rio Grande, the Bluefields or Mico, and the San Juan. The Coco, towards the Honduran frontier, is about 300 miles in length. It was named Wauks by the English mahogany-cutters, who had settlements on its banks. It has also been known by various other names. Although it receives the waters of numerous streams, as it runs through a narrow valley, it does not carry a volume of water proportionate to its length. It flows into the Caribbean sea near Cape Gracias á Dios.

The Rio Grande or Matagalpa River rises in the Sierra de Guaguali in the department of Matagalpa. It receives in its course the waters of many streams and of several considerable rivers. For a distance of 100 miles from the sea it averages 300 yards in width and 15 feet in depth, and would be navigable for vessels of considerable size, and would form a magnificent avenue for commerce and immigration if it were not for the bar at its mouth, which is very dangerous and seldom carries more than 8 feet of water. It was at this point that Columbus lost a boat and its crew, and this circumstance gave to it the name of "El Rio del Desastre." The deepening of the water on the bar would not be a difficult or very expensive undertaking, and there is no doubt that, in the near future, it will be done, and this fine river opened to the commerce of the world. The whole length of the river is about 230 miles.

The Bluefields River, or, as it is sometimes called, the Mico or Escondido, has its source in the mountains of the Department of Chontales. Its general course is from west to east. It receives

ANCIENT CASTLE ON SAN JUAN RIVER.

the waters of many rivers and streams of more or less importance and flows through a region covered with magnificent forests. It is a beautiful river, and for a distance of about 65 miles, from Bluefields to the Boca de Rama, large steamers running to Galveston, New Orleans, New York, Philadelphia, and Boston ascend without difficulty, and, when the contemplated deepening at the bar has been carried out, ocean vessels of large draft will be able to reach the same point. It discharges into the Bluefields lagoon, a landlocked and well-protected harbor.

The San Juan River is the most important water course in Central America, as it forms the outlet through which are discharged the waters of the great hydraulic system of Lake Nicaragua, from which circumstance it was named by the Spaniards "El Desaguadero." Its navigation is interrupted by rapids and rocks at several points. It was, however, used for some years by the small steamboats of the transit company to carry passengers and freight between the Atlantic and Pacific coasts. It is now again brought, and more prominently than ever, to the notice of the world as the scene of operations of the Nicaragua Canal Company, who will use its waters as a part of their system of interoceanic communication.

There are several islands near the Caribbean coast, the most important of which are St. Andrews, Old Providence, and Great and Little Corn Islands. These two latter have been claimed by the Mosquito authorities; but, as the treaty of 1860 defines the Caribbean coast line as the limit of the reservation, the Nicaraguan Government has ignored their claim and established a post on the Great Corn Island and placed an official in charge. This island is situated about 38 miles from Bluefields and 82 from San Juan del Norte. Banana and cocoanut growing are the industries that are rendering these islands valuable.

POLITICAL DIVISIONS AND POPULATION.

When the "kingdom" of Guatemala was definitely organized, in 1568, Nicaragua formed one of its five provinces and was in turn divided into seven departments, called Realejo, Granada, Nicaragua, Matagalpa, Monimbo, Chontales, and Quezaltepeque. Under the ordinances published by Charles III in 1778, the province of Nicaragua was divided into five political divisions, León, Matagalpa, Realejo, Subtiaba, and Nicoya.

The Republic is now divided into twelve departments: Chinandega, León, Managua, Masaya, Granada, Carazo, Rivas, Chontales, Matagalpa, Jinotega, Nueva Segovia, and Esteli.

Nicaragua, enjoying all the richest gifts of nature, presenting an ever-varying panorama of mountain and valley, broad plains, and fertile valleys, forest and pasture land, lake and river, with a productive soil and salubrious climate, provided conditions eminently favorable for sustaining a vast population and bringing together great communities of the aboriginal people. That this was the case, is amply proved by the testimony of the ancient chroniclers. As was asserted by Las Casas, it was one of the best-peopled countries of Central America.

Those same early historians tell us how its inhabitants were decimated by war, slavery, torture, and pestilence until but a remnant remained of its once teeming population. Indeed, so rapidly were they reduced in numbers that, in the year 1586, negro slavery was introduced by Governor Diego de Artieda to supply the demand for laborers, and it continued to be a legalized institution until April, 1824, when it was abolished by act of the Congress of the Republic of Central America, and the owners were compensated by the payment of the money value of their slaves.

The present population of the Republic, according to the census of 1890, is 360,000 inhabitants (16,200 white, 198,000 Indians, 1,800 negroes, and 144,000 of mixed races), little more than 8 to the square mile. How inadequate this is for the development of

the resources of the country and how much smaller than the number it would comfortably maintain, may be estimated by a comparison with the population of four Commonwealths of the United States which closely correspond in area to Nicaragua, viz: Maine, Massachusetts, Connecticut, and Rhode Island, which contain, on the same space of the earth's surface, nearly 4,000,000 of inhabitants. In Nicaragua, as throughout Central America, females exceed the males in number.

The Indians, who form the bulk of the laboring inhabitants, are docile and industrious, and form an excellent rural population, free to labor for their own benefit or for others, as their inclination or interest may dictate. Most of the people in the rural districts live in towns and villages, necessitating, in many instances, a journey of several miles to and from their field of labor. This has arisen largely from the necessity for mutual protection during times of disturbance through which the country has passed. This fact frequently induces travelers when passing through the country to estimate the population to be even more scanty than it really is, as they may pass, at times, many miles without seeing a house and meeting but few people.

Many schemes have been from time to time proposed to secure immigration, but none have yet proved successful on any considerable scale; but, while the Government has been seeking a solution of the problem, the march of events has steadily tended to show that it will settle itself as soon as facilities are provided for transporting the products of the country to the ports of the Atlantic seaboard and the improvement of the ports by deepening the bars at the mouths of the rivers is effected. Whenever these conditions are fulfilled, giving access to the markets of the world for the products of their labor, immigrants will flow in as they have done in other parts of Central and South America.

Chapter II.

GEOLOGY, MINERALS, AND MINING.*

Geologically, Nicaragua may be divided into five zones, differing from each other in many characteristics.

The first or central division extends from southwest to northeast in direction. Its rocks are composed of granite, gneiss, sandstone, porphyry, slate, quartzite, limestone, and hornblende, and it contains large deposits of titanic iron ore and graphite. The Laurentian rocks occupy the center of the northern part of the division, while rocks of later age overlie them on the west and east. Devonian rocks rest unconformably upon the Silurian. They consist of marls, coarse and gritty shale, and red sandstone. These rocks resemble those of Scotland more closely than similar formations in the State of New York. In parts of this division are many fissures or lodes, frequently having walls of diabase or diorite, or one of these and slate, which have gold deposited in them, or they include veins of the ores of silver, tin, nickel, antimony, arsenic, etc. In a few places platinum, iridium, and osmium are found in creeks, mixed with the gangue of mineral veins, from which they have been removed by erosion and transported to the creeks by ancient glacial action or water. Many of these veins are very rich in the precious metals.

A few of the peaks on these mountain ranges are the highest in Nicaragua, from 6,500 to 6,700 feet above the ocean level. At several places in the mountains are areas of nearly flat table-lands called "mesas," from 9 to 20 square miles in superficial dimensions.

* For recent developments in mining in Nicaragua, see report of U. S. Consul Newell, Appendix E.

They are inclosed almost completely by peaks and ridges, which rise to a height of from 100 to 500 feet, and have nearly perpendicular external walls, intersected in places by cañons through which the rain waters find their way to the streams which flow into the Caribbean Sea. A few ancient extinct volcanic cones and fissures can be seen, and some mineral springs are found, having temperatures of from 131° to 215° F.

The second division is a narrow annex on the east of the division just described, and extends to within about 100 miles of the Caribbean coast. Its mountain system is monogenetic, forming isolated cones, short ridges, and long valleys, all from 1,000 to 2,800 feet above sea level. There are many dry beds of ancient rivers, traceable for many miles, along which are small hills. Those near the old river, north of the river Prinzapulca, consist of iron clay slates and partly stratified fragments of chlorite and talcose slates; quartz, pebbles, sands, and occasionally clays, interspersed with numerous small and a few large particles of gold. Fifteen miles north of the Indian village of Wylowas, on the Prinzapulka River, the old river channel and its valleys contain very rich gold placers. Another large placer, very rich in gold, is found in the bed of a pre-glacial river, on the southeast side of and near the river Eas, a confluent of the river Tooma. Among the rocks of this division are Lower Carboniferous limestones, Permian magnesian limestones, red sandstones, and variegated shales. In the Laramie, brown coal or lignite is found, and in the Cretaceous formations, volitic rocks and clays, gypsum, salt, and slightly metamorphosed sandstones. At several places mountain limestone of the Lower Carboniferous forms the outcropping eastern margin of the rocks. At some localities there are long groups of hills and ridges which are evidently terminal moraines referable to a glacial epoch in Nicaragua contemporaneous with a similar era in North America. Numerous mineral springs have been discovered in this uninhabited part of Nicaragua. The waters are cool, except in one case, where the water has a temperature of 120° F.

The delta-shaped area of all the east-flowing rivers forms the third division. It comprises about 15,000 square miles, or 75 miles from east to west and about 200 miles from north to south on the seacoast. This part of the coast has subsided until within the past few years, and the ancient coast line was formerly far to the eastward of its present position. Recently, its elevation appears to have recommenced. Formerly, corals grew nearly into the mouths of the rivers Matagalpa, Escondido, and others. Now, the tops of their branches are dead, and the muddy river waters that killed them are distinguishable several miles seaward.

The fourth division lies on the western side of the first. It has for its western limit the foot of the mountain ridges which extend to near the margin of lakes Nicaragua and Managua, and extends from the lakes northwestward to about latitude 13° 15′ north. Formations of the following ages occur in this as well as in the second division:

Recent.—Submerged forests, clay, peat, marl, volcanic tufas, stratified sand and ashes, and uncompacted volcanic ashes.

Pleistocene.—Terrace beaches and deposits, metamorphosed rock-walled gulches, erratic bowlders, striated rocks, moraines, volcanic tufas and agglomerates, and alluvial conglomerates.

Pliocene.—Lignites, loams, and flinty shingle.

Miocene.—Greenish marly limestones, clay, fresh-water marly limestone, and sandstones.

Eocene.—Limestones, clay, fresh-water marly limestones, and sandstones.

Mesozoic.—Oölitic flinty limestones, conglomerates and slates, bluish marly clays, greenish sandstones, pebbly sandstones, gypsum, salt beds, bituminous earths, and marls.

Permian.—Magnesian limestones, variegated shales, red sandstones, and lignite.

Carboniferous.—Coal, mostly anthracite in character, sandstone, and limestone.

There are ancient volcanic fissures in this division, but the rocks filling them are rapidly disintegrating. They are not distinctly outlined in many places, but are partly covered by eruptions from

more recent volcanoes. Several large springs, having a temperature of 158° to 212° F., flow from the foot of the mountains in the northwestern part of this division. They usually contain large percentages of alkalis. This division is very interesting, and wonderfully varied in its stratification, lithology, mineralogy, and mineral springs.

The fifth division embraces the northwestern and southwestern parts of Nicaragua, including lakes Nicaragua and Managua, which were once part of the Cenozoic ocean; also several small lakes in the craters of extinct volcanoes. Some of these contain pure or slightly alkaline water, as Masaya, Apoyo, Tiscapa, etc. Others contain large amounts of sulphur and alkalis, as Nejapa (which gives iodine reactions and possesses in a remarkable degree the property of preserving and strengthening animal membrane, tissues, etc.), Asososca, and others. The northwestern part of this division extends to near the Gulf of Fonseca. Its rocks are paleozoic. It is intersected by many lodes, generally running from northeast to southwest, which contain gold as the principal metal, but those passing into granite rocks, or between granite and gneiss and shales, have as their principal metal silver, tin, or manganese. The gangue of all these veins is quartz and magnesian slates, and their walls are granite or gneiss, or one of these on one side and shales on the other, excepting a few of the gold-bearing veins, which have walls of diabase or diorite. Some of the most valuable mineral veins in the southern part of this division have been largely faulted and disturbed.

The western and southwestern parts of this division, with the exception of a few low hills, are composed to great depths of matter ejected from the line of volcanic fissures and cones which pass through or appear above it. On this erupted mass, are situated all the large towns and cities in Nicaragua excepting Matagalpa and Jinotega; and more than seven-tenths of the population of the country reside in the towns, fertile valleys, and mountain slopes of

this vicinity. In several places, the darker and more easily melted minerals, basalt, dolorite, andesite, and black scoriæ have been transported by water to greater distances from the volcanoes than the lighter-colored and more acidic minerals, pumice, obsidian, trachyte, light-colored scoriæ, and rhyolite.

MINES AND MINING LAWS.

The northern part of this division, in the department of Segovia, contains many mines, and some that were once famous; and there is no doubt that, under conditions of peace and good government, the influx of capital and labor will, before long, make this one of the richest mining regions in Central America. Chontales is a very rich mining district, where mines are now in active operation which have contributed in no small degree to augment the wealth of the Republic. Matagalpa is also very rich in minerals, requiring only capital and improved means of transportation to develop a great mining interest.

The code of mining laws of Nicaragua is a very voluminous document, forming a book of 112 pages, published in the year 1877. It is based upon the old Spanish mining laws, but is very liberal in its provisions.

The most important part of this Code (*Código de minería*) was published in English in the chapter "Nicaragua," of Bulletin No. 40, of the Bureau of the American Republics, "Mines and Mining Laws of Latin America". This chapter is reprinted in full, at the end of this Hand Book, as Appendix D.

Mining machinery is admitted free of duty, and there are no taxes, either government or municipal, levied on mines. There is no distinction between foreigners and natives in the right to acquire and hold mining property.

Señor Don José D. Gamez, in his "Noticias Geográficas de la República de Nicaragua," which the Nicaraguan Government sent to the Bureau of the American Republics to aid in the prepara-

tion of this Hand Book, refers to the mines of Nicaragua in the following terms:

In the whole of Central America the only country which goes ahead of Nicaragua, as far as mineral wealth is concerned, is the Republic of Honduras.

The vast mountain system which extends to the Atlantic coast, although almost unexplored in this respect, is the great mining region of the country; but independently of it there are the districts of Nueva Segovia and Chontales, which have become celebrated for the gold they yield in abundant quantities.

The mines thus far discovered are very valuable; but the mining industry has not developed in proportion, because of the lack of capital, skilled labor, and convenient means of transportation. This is the reason why few mines have been worked up to this date; but those which have been worked, most of which belong to foreigners, are yielding large profits.

At present only gold mines are worked in Nicaragua. The famous silver mines, which gave such fabulous yieldings in the Sixteenth and the Seventeenth centuries, are no longer in operation. They require larger expenses and a greater knowledge of the subject.

The gold mines of Chontales yield from one-fourth to 2 ounces of gold, from 14 to 20 carats, per ton of 2,000 English pounds of ore. Those of Nuevo Segovia yield from one-half to 3 ounces of gold per ton.

The bad roads of the department of Nueva Segovia render the introduction of mining machinery very difficult, and for this reason no mine which yields less than 1 ounce of gold per ton of ore is worked with profit. Every town, every hill, every mountain, and almost every river in this department, contains gold, or gold and silver, or copper, tin, zinc, antimony, or other metals. Samples of these metals and ores commanded the attention of the world at the Paris Exhibition of 1889. * * *

The total production of gold in Nicaragua can be estimated at 22,754 ounces per year.

Chapter III.

CLIMATE AND SEASONS.

It is a common error among persons unacquainted with the country to suppose that Nicaragua, being, geographically, a tropical country, must suffer from excessive heat, and consequently, is unhealthy for people of northern origin. The truth is that, while on the low lands of the coast and forests of the plains the climate is tropical, in the higher regions it is varied and temperate.

Situated between two great oceans, the country enjoys an insular regularity of temperature, while the absence of mountains toward the Atlantic coast and the broad expanse of its lakes permit the trade winds to sweep across the country and ventilate it so thoroughly as to produce a climate agreeable to the senses and favorable to health.

There are in Nicaragua only two seasons—the wet, called by the natives winter, and the dry, called summer—but on the Atlantic side these seasons are not so well defined. The time of commencement and ending of these varies according to locality. On the eastern coast, the rainy season is from June to December, inclusive; on the Pacific slope the rains commence about the 15th of May and continue until the 15th of November. The climate of the Caribbean coast is much more humid than that of the Pacific side of the mountains. The amount of precipitation at San Juan del Norte during the past year was 29.7 inches. This heavy rainfall and humidity of the atmosphere are largely attributable to the dense forests. As the country is cleared and brought

under cultivation this will doubtless meet with a proportionate diminution, as has been the case in other tropical countries.

Even on the hottest part of this coast, the heat is never oppressive while the trade wind is blowing, but during calms it is very sultry. The climate, however, is anything but unhealthful. The prevailing type of disease appears to be a low form of intermittent fever, mild in its character, and yielding readily to simple remedies. In the majority of cases, where foreigners suffer from it, the cause may be traced to their own imprudence and careless habits of life. With ordinary attention to hygienic laws, and temperance in eating and drinking, there is no reason why any person of good constitution should not enjoy as good health in Nicaragua as in any other part of the world.

A naval officer, who has written on the subject, states that he once commanded a ship of war, with a large crew, that was stationed on the coast for five months, during which time he never had more than four men on the sick list, and not a single death occurred.

The following notes, taken during a more extended residence on this coast, by the same officer, will afford a good idea of the climate and its variations:

January.—Strong breezes from northeast; dry weather; occasional showers, principally during the night.

February.—Squally weather, wind changing from north to east in sudden gusts. This month is sometimes showery, but wind never shifts beyond north or east.

March.—Strong breezes from eastnortheast. Generally, about the 20th, an equinoctial gale may be expected, which generally lasts about three days, with heavy rain, and violent winds from north to northwest. Otherwise, March is a dry month.

April.—Light southeast and south winds, with calms. No rain. Rivers low and lagoons shallow.

May.—Calms; dry weather; winds very light and variable.

June.—Heavy rains, with much thunder and lightning; generally calm, but subject to squalls and sudden gusts of wind.

July.—The same as June, but varied by strong steady breezes from east-northeast to northeast.

August.—The same as the two preceding months, with the addition of heavy squalls of short duration.

September.—Calms and light variable winds, thunder and lightning, with occasional rains.

October.—Northers commence in this month; generally, about the 15th, heavy northerly gales may be expected, with rain and squalls. These may be looked for occasionally between October and January. During a wet norther the weather is chilly and unpleasant, but should it be dry, it is both healthy and invigorating.

November.—Similar weather; plenty of rain. Sometimes the trade wind blows uninterruptedly, and the entire month passes without a norther.

December.—Passing showers, the trade wind blowing strongly, occasionally interrupted by northers.

January, February, March, and April are considered the most healthful months of the year. March and April are the hottest. The thermometer seldom rises above 85° or falls below 70°.

A report published by the Nicaragua Canal Company gives some interesting details as to the healthfulness of the country. It says: "No better proof of the healthfulness of the country can be asked than the practical experience of the men who have been employed in surveys of the route and on actual work of construction thus far accomplished. The surveys were made through dense forests and jungle, where every foot of advance was gained by the use of the ax or machete, and through swamps and streams where the men were often compelled to do their work up to their waists in water. In December, 1887, the engineering expedition under the charge of Mr. Peary, consisting of some forty-five surveyors, including their assistants, and accompanied by about one hundred negroes from Jamaica, landed at Greytown and commenced work. Peary says that, excepting the negroes only five members of the expedition had ever been in tropical climates before, and the rodmen and chainmen of the party were young men just out of college, who had never done a day's work nor slept on the ground a

night in their lives. The rainy season prevailed more than a month beyond the usual period, during which time and for months afterward all the members of the party, engineers and laborers alike, were equally exposed in their tents and in the forests, working sometimes on land, sometimes in the streams and swamps, to all the vicissitudes of the climate. Yet, notwithstanding all this exposure, not only were there no deaths on the expedition, but there was not a single case of serious illness; and those who, at the expiration of their contract, returned to the United States came back in better health and weight than when they went away. Of course, the men were well fed and sanitary rules were strictly enforced, but the results proved the natural salubrity of the climate."

The annual report, for the year 1890, of Dr. J. E. Stubbert, surgeon in chief to the Nicaragua Canal Company, shows the same remarkable immunity from disease and sickness among the employés. The following is the meteorological report of observations taken at the company's headquarters at San Juan del Sur for the year ending December 31, 1890:

Month.	Total rainfall.	Daily average.	Maximum temperature	Minimum temperature.	Average temperature.
	Inches.	*Inches.*			
January	26. 80	. 86	81	70	75
February	6. 36	. 227	80	72	76
March	5. 93	. 191	81	73	77
April	18. 11	. 60	78	72	75
May	4. 93	. 164	80	72	76
June	46. 84	1. 55	84	74	79
July	52. 55	1. 69	81	75	78
August	35. 72	1. 15	81. 5	75	78
September	8. 14	. 27	89. 5	75	83
October	24. 36	. 78	80. 5	74	77
November	25. 55	. 85	82	71	76. 5
December	41. 65	1. 34	81	72	76. 5

	Inches.
Average monthly rainfall for the year	24. 75
Average daily rainfall for the year	. 819
Total rainfall for the year	296. 94

In the more elevated regions and on the Pacific slope, the temperature is also very equable, differing a little according to locality,

but preserving a nearly uniform range, during the wet season, of from 75° to 88° F., occasionally sinking to 70° during the night and rising to 90° in the afternoon. During the dry season, the average temperature is less, for although it ranges from 80° to 90° during the day, it falls frequently to 65° or 68° during the night. The sky is cloudless, the fields become parched and dry, and the effect of this season is practically that of a northern winter, checking and destroying ephemeral vegetation, thereby purifying the atmosphere and rendering it the healthiest part of the year. In all the elevated regions of Nicaragua, no sense of oppression or exhaustion is felt, even on the hottest day. The air is so pure and fresh and the radiation of heat so rapid that, even when the direct rays of the sun may be felt to be intolerable, the temperature is pleasant and refreshing in the shade, forming a great contrast in this respect to northern cities, where, at times, it is impossible to escape from the exhausting heat, either in the house or even during the night.

Observations taken during one year at the town of Rivas gave the following results: Mean highest temperature 86° F., mean lowest 71°; mean average for the year 77°, mean range 15°. The amount of rain which fell from May to November, inclusive, was 90.3 inches; from December to April, inclusive, 7.41 inches; total for the year, 97.44 inches. Hail is almost unknown in Nicaragua, as are also frost and snow, and none of the mountains or volcanic peaks are high enough to be liable to a perpetual or even an occasional covering of snow. Cyclones, hurricanes, and destructive storms, which at certain seasons are so devastating in other countries, never reach this favored land. It is a remarkable fact that in Nicaragua, although the barometer varies in one place or the other according to the altitude, as is natural, in any fixed spot the variation throughout the year is almost inappreciable, so much so as to render it almost useless as an indicator of atmospheric disturbance or changes of weather. This proves that the atmosphere

IN THE SUBURBS OF RIVAS.

has a uniformity of pressure that is very remarkable, a condition very favorable to the maintenance of good health, and particularly beneficial to the respiratory organs. Earthquakes, to which all volcanic countries are more or less subject have at times been felt on the Pacific slope, but they have never been so violent or destructive as in other countries. The volcanic energy which, in remote ages, has had such a marked influence on the topography of the whole Pacific coast of America, is gradually dying out, and seismic disturbances subside in the same ratio.

Chapter IV.

FORESTS AND FIBROUS PLANTS.

In the luxuriant forests that cover so many square miles of territory, Nicaragua possesses an element of incalculable wealth, which, from its accessibility to the great markets of the world, will, in the very near future, become the foundation of a great industry. Some beginning in this direction has been made in the neighborhood of Bluefields, but with the improvement of the bars at the river mouths and the opening of routes of transportation, this will expand in all directions and contribute in no small degree to the national prosperity.

The mahogany (*caoba*) is the monarch tree of Central American forests and is abundant in Nicaragua, growing to an enormous size, frequently measuring from 40 to 50 feet in height below the first branches and from 9 to 12 feet in diameter at the base. At a short distance the tree is a magnificent object, its giant arms stretching outward over a wide space and surmounted by a great dome of verdure, which at certain seasons of the year is colored with hues like the autumnal foliage of our northern trees. This change of color is the guide of the mahogany hunter, whose business it is to find the trees in the dense forest and point them out to the choppers. He climbs the highest tree he can find, detects the spot where they are growing, cuts a way to them through the undergrowth and carves on the trunk his employer's mark. This magnificent wood has long been appreciated for its beauty by cabinet-makers and for decorative work, but its value for ship-

building and other similar purposes has never been estimated as highly as it deserves. It is in all respects better than oak. It shrinks less, warps and twists less, is more buoyant, holds glue better, and weighs less. (The average weight of mahogany is 44 pounds per cubic foot, while oak weighs 55.) Mahogany is slow to take fire, is free from dry rot and the effects of acids, and does not suffer from any change of temperature. The non-corrosion of metals is a very valuable property in this wood. A decoction of it gives hardly any chemical reaction, and has no effect on iron or copper. The tree can be cut at anytime during the year, but it is generally felled in the dry season, between October and May. When the tree is down, the branches are lopped off and the logs squared. They are then drawn by oxen to the nearest water course, where they are rafted and allowed to remain until the high water of June or July, when they are floated to the port of shipment. When railroads penetrate the forest districts, vast quantities of this timber that are now remote from the streams will become available.

The tree second only to mahogany in beauty and value is the cedar (*cedro*), so well known from its extensive use for pencils and cigar boxes. In Nicaragua, it is abundant, grows to an immense size, and produces wood of the finest quality. It can be worked as easily as pine, and when polished is as beautiful as mahogany, while its aromatic odor preserves it from the attack of insects. It also, like the common red cedar of the North, is very durable, and is not liable to rot when exposed to damp.

The wild cotton tree (*ceiba*) is one of the grandest forest trees. It grows rapidly and to great size; trunks of 70 feet in length and 14 in diameter near the root are not uncommon. The wood is very useful for building purposes; it is lighter than pine but perhaps not quite so durable, and can be worked very easily. It is largely used by natives to make canoes, or bongos, many of them of large size, which are hollowed out from a single log; also for

making barrels. It produces large pods, filled with a downy substance like floss silk; the shortness of the fiber renders it unavailable for textile purposes, but it is frequently used for stuffing cushions, pillows, etc., and is doubtless available for other economic uses.

The *guanacaste* is a noble tree, notable for the immense size it attains and the enormous spread of its branches. It produces fine, durable lumber, and large quantities of gum exude from it, which might be made available as an article of commerce.

The *jenísero*, a tree of the acacia family, also reaches great proportions and produces an excellent wood, which is unknown to commerce, but occupying a middle place between mahogany and cedar, with somewhat of the good qualities of both.

The *guayacan* (*lignum-vitæ*). The wood of this tree is too well known to need description; there are two varieties, black and green, both abundant in the forests of Nicaragua.

The *granadillo*, *rourón*, and *ñámbaro* (rosewood) are all beautiful and valuable cabinet woods, which grow abundantly. The *níspero*, which produces one of the best tropical fruits, also furnishes a most valuable wood which, for cabinet uses, rivals mahogany in beauty. It is hard and heavy; under water it becomes as hard as iron, and will last almost indefinitely. The *madroño* produces a very fine grained wood, suitable for turning, and would be very useful as a substitute for boxwood, for wood engraving and other purposes.

The tree called *madre de cacao* (mother of cacao), which is used extensively to shade the cacao plants, does not grow to a large size, but produces a wood called by the natives *madera negra* (black wood), which is useful for foundations, posts, etc., as it is almost indestructible when under ground.

The *guapinol* produces a fruit from which an edible substance is made and a gum equal in every respect to copal. Its wood is also very beautiful and useful either for construction or cabinet purposes.

The *cortés* is a large tree which produces a beautiful fine grained wood of a pale yellow color. It is very hard, and could, without doubt, be made available for many purposes of manufacture.

The *zapotillo* produces wood which is the only kind known that will resist the attacks of the teredo or boring sea worm, so destructive in the Gulf of Mexico and Caribbean Sea.

There are also a number of trees such as the *guachipilín*, the *güiligüiste*, the *palo de carbón*, the *coyote*, and the *chiquirín*, which produce woods excellent for underground use and especially valuable for railway ties or sleepers.

Oaks of several varieties, and particularly the live oak, which grows to an enormous size, and the long-leaved pine, called by the natives *jocote*, grow abundantly in the more elevated regions. The latter are particularly rich in resinous juices and would produce abundant harvests of turpentine and tar.

Dyewoods also abound in the dense tropical forests. One of the most valuable of these is that called *morán*.

Brazil wood, a variety of which is called in the country "Nicaraguan wood" (*madera de Nicaragua*), is abundant, also sandal wood, *nance*, *elequeme*, and many others that produce valuable tinctures and dyes well known to the natives, but which have no commercial nomenclature and are unknown in the markets of the world, although they can be found everywhere in Nicaragua.

The several varieties of palms are very beautiful and striking features of Nicaraguan forests. They are often so numerous as to form groves extending for miles. The best known are the *corozo* or *cohune* palm and the *coyol*, both of which produce great crops of oleaginous nuts. The vegetable oils that can be produced in these forests present an admirable field for commercial enterprise. The trees and plants producing them exist in great variety and abundance, such as the *jolio*, the *marango*, the *cacaguate*, and the castor-oil plant.

Medicinal plants of all kinds abound in countless numbers and

infinite variety, a few of them known in the pharmacopœia of the United States, but these latter are insignificant in number when compared with the vast resources of medical botany in tropical America. Among those known to commerce, Nicaragua produces sarsaparilla, ipecacuana, jalap, croton, hellebore, cundurango, belladonna, quassia, ginger, copaiva, aloes, vanilla, and great numbers of others, the virtues of which are well known to the natives, although even their names are unknown outside the country.

This slight sketch of the products of the Central American forests is merely an indication of their vast resources; anything like a full list or description would occupy a volume of no inconsiderable dimensions. It may serve to direct attention to the subject, and invite enterprise to their utilization.

FIBROUS PLANTS.

Besides cotton, which will be mentioned more fully in another chapter of this Hand-Book, Nicaragua has many other textile plants that are valuable to commerce.

The *pita* (*Bromelia pita*) produces a fiber the roughest of which is superior to manila hemp for length, strength, and suppleness, but when bleached and carefully prepared for mixing with silk, it can not be distinguished from it except by aid of the microscope. Its length, from 5 to 9 feet, makes it available for twines of single thread and its lightness and durability render it valuable for cordage. Monsieur Chevremont, a Belgian engineer, who has closely studied the question, says: "Ropes made from *pita* possess a greater average strength by four times than those made from hemp of similar dimensions."

Squier also states that this fiber is probably more valuable in every sense than that of any other tropical plant.

There are three varieties of *yuca*, bearing leaves from 18 to 36 inches in length, which produce valable fibers.

The *Agave sisalana* that produces the *henequen* or sisal hemp

of commerce, which forms such an extensive article of export from Yucatan that a capital of $6,000,000 is invested there in its production, is not confined to that country alone, but grows even more luxuriantly in Central America. It is found as a wild plant throughout Nicaragua, as are also other members of the agave family well known as fiber-producing plants.

Ramie and jute could also be grown in perfection in Nicaragua and would prove valuable additions to her export commodities.

The consumption of fibers in the United States is very large and constantly increasing. During the year 1891, there were imported 733,296 bales of jute from the East Indies and an immense quantity of other fibers. With such a market in close proximity and with vast facilities for production, this industry must become an important interest in Nicaragua and Central America generally. There is so little realization of the hidden wealth in this direction that nobody moves or takes the opportunities now open. The plants abound; all that is wanting is energy and far-seeing capitalists.

Chapter V.

AGRICULTURAL RESOURCES.

Peter Heylyn, in his Cosmography, published in London in 1652, says, in reference to Nicaragua: "It is stored with plenty of cotton wool and abundance of sugar canes, and is so pleasing to the eye that the Spaniards call it by the name of Mahomet's Paradise." Its productions, however, far from being limited to the staples mentioned by the old geographer, are of the most varied character, but its resources have been very imperfectly developed. The facilities for transportation have been so poor that little more has been raised than is sufficient for the wants of its population, and the portion of land brought under cultivation has been relatively small. With the development that is now in progress, and the opening up and improvement of roads and other means of transport, the condition of affairs is gradually changing, and the boundless wealth of its resources is beginning to be recognized.

COFFEE.

The principal agricultural wealth of Nicaragua lies in its coffee plantations. Although this industry is still in its infancy, every year witnesses its augmentation, and the time is near at hand when the coffee of Nicaragua will take the prominent position to which it is certainly entitled. There are millions of acres of land in the Republic that are especially adapted to the cultivation of coffee.

Señor Don José D. Gamez in his *Noticias Geográficas de la República de Nicaragua*, already cited, says:

> Coffee grows well almost everywhere in Nicaragua, but preferably in the mountainous districts. The production at a height of from 200 to 2,000 feet above the level of the sea is generally at the rate of one-half pound, and in some cases 1 pound per tree. At an elevation of 2,000 or 3,000 feet, the production

tion fluctuates between 1, 2, 3, 4, and even 5 pounds per tree, according to the quality of the ground. At a higher altitude the production diminishes gradually until it ceases entirely on account of the cold temperature. There are in Nicaragua certain coffee regions offering the best possible advantages for the cultivation of this plant. They are to be found in the departments of Managua, Carazo, Matagalpa, Chontales, Jinotega, and in the skirts of the hills and volcanoes of the other departments.

The Government charges $1.50 for each manzana of public land. (A manzana is equivalent to 1¾ acres.)

The number of coffee trees which have been planted in Nicaragua up to the month of August, 1892, is as follows:

	Trees.
On the mountains of Managua	15,000,000
On the Mombacho volcano (Granada)	1,000,000
In the Department of—	
Carazo	5,000,000
Jinotega	1,844,000
Matagalpa	1,294,600
Masaya	1,000,000
Ribas	50,000
Chinandega	30,000
Chontales	30,000
Total	25,748,600

The number of trees planted in the present year (1892) will raise the above total to 27,000,000.

The expenses vary in proportion to the quality of the ground, the height at which it is situated, the distance from the coast, and the facilities of transportation. The results thus far obtained allow the following statement to be made with certainty:

Year.	Total production in quintals.	Average price per quintal.	Total value of the production.	Cost per quintal.	Net profit per quintal.	Net profit in the production of the year.
		Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
1879	35,293	8.00	282,344.00	5.50	2.50	88,232.50
1880	45,283	8.50	384,905.50	.....	3.00	135,849.00
1881	46,982	9.00	422,838.00	.....	3.50	164 437.00
1882	73,283	9.00	657,547.00	.....	3.50	256,495.50
1883	54,581	9.50	518,519.50	.....	4.00	218,324.00
1884	72,384	9.50	687,648.00	.....	4.00	289,536.00
1885	70,525	10.00	701,210.00	6.00	4.00	280,484.00
1886	72,531	10.00	723,510.00	.....	4.00	289,404.00
1887	68,470	20.00	1,369,400.00	.....	14.00	958,580.00
1888	88,166	18.00	1,586,988.00	.....	12.00	1,057,992.00
1889	84,145	20.00	1,682,900.00	.....	14.00	1,178,030.00
1890	113,820	24.00	2,731,680.00	.....	18.00	2,048,760.00
1891	91,540	22.00	2,013,880.00	.....	16.00	1,464,640.00

In starting a coffee plantation, it is usual to form a nursery, where the seeds are planted at the beginning of the rainy season—say April or May. Thus the young plants are growing while the land is being cleared. The following year, about the same time, the plants will be ready to set out, which is usually done when they have attained a height of 18 to 20 inches. The plants require plenty of air, light, and water, but should be sheltered from the full glare of the sun. The best time for watering is in the evening. Nursery beds should always be in operation, either for extending the plantation or replacing defective or worn-out trees. In transplanting, the new ground should be carefully prepared, and holes dug to receive the plants from 10 to 15 feet apart.

The coffee tree is essentially a tender shrub, and needs protection from the sun from the time of planting and even for years after it has begun to bear. For this purpose, bananas, plantains, or quick-growing, wide-branching trees are planted between the rows. At no time, from its first sprouting until its death from old age, should a single weed be permitted to remain in the vicinity of a coffee plant. Even after the tree has reached maturity and is in full bearing the plantation must be thoroughly weeded five or six times in the course of the year. This work must be carefully done by hand. As the tree grows, it is improved in health and condition by pruning, but this must be judiciously done and at a time when it is not bearing. In two years, the trees will begin to bear a small number of berries, and at the end of three years, a fair crop will be produced, which will continue to increase until the plantation is seven years old, by which time it will have reached its maximum. For persons who have the necessary capital to start and cultivate a plantation and wait until its maturity for returns, there is no more profitable industry in existence at the present day. The fruit should never be picked until fully ripe, as any admixture of green berries has a detrimental effect on the remainder. After the berries have been picked, the preparation of the

BREADFRUIT TREE AND PEON'S CABIN.

coffee for the market must be carefully conducted, as on this depends in great measure the value of the crop. The berries are first lightly ground and washed in running water and allowed to ferment. In some cases the grinding is omitted, but the fermentation is essential. The berries are thus freed from the outer skin and pulp which surrounds them. They are then spread out in the open air in patios or yards, where the drying is effected by the heat of the sun. After they are thoroughly dried, they are passed through a mill to remove the fine skin which covers each grain. The coffee thus prepared is then sorted, the grains being separated according to size and quality, and all broken and damaged ones removed. This work is usually performed by women and children.

For some years past, in consequence of the high price of coffee, a great impulse has been given to its production. According to the public records, between December 1, 1889, and December 1, 1890, 24,598 manzanas of public land were taken up, of which 16,740 manzanas, it is estimated, were fit and intended for the cultivation of coffee. Of these, 8,491 manzanas are in the department of Matagalpa, and 4,101 in that of Managua. In the department of Matagalpa alone, there are now about 2,000,000 of young trees under cultivation, which will begin to yield in about a year.

The amount of coffee exported from Nicaragua during the ten years, 1881–1890, is as follows:

Year.	Quantity.	Year.	Quantity.
	Pounds.		*Pounds.*
1881–'82	12, 026, 200	1886–'88	12, 424, 300
1882–'84	12, 696, 400	1888–'90	19, 786, 400
1884–'86	14, 247, 200		

The main obstacle in the past to the progress of this most important industry has been the lack of facilities for transportation. But few of the roads are practicable for wagons or carts, necessitating the moving of freight on the backs of mules. The Gov-

ernment is doing all in its power to remove this obstacle by making new wagon roads, and the opening of the railroad to the Pacific coast and the increase of steam navigation on the lakes have been of the greatest assistance. The freight on coffee by rail and steamer is as follows:

From Granada to the port of Corinto, per 100 pounds, 65 cents. From Masaya to the port of Corinto, per 100 pounds, 62 cents. From Managua to the port of Corinto, per 100 pounds, 55 cents.

Coffee can be shipped also by steamer on the lake from Granada to San Jorge, thence by wagons or carts to the port of San Juan del Sur on the Pacific; or it can be sent by way of the lake and the San Juan River to San Juan del Norte (Greytown) on the Caribbean coast, but in the dry season, this route is inconvenient on account of the scarcity of water and obstructions in the river at certain localities. The construction of the Nicaragua Canal and of railroads that are projected to the Atlantic coast will give an immense impetus to coffee growing, as they will quicken and cheapen access to the markets of the United States and Europe.

INDIA RUBBER.

The production of India rubber is an important industry in Nicaragua, but it is yearly decreasing from the reckless slaughter of the trees. Even with the most careful treatment, they will stand but a few years of tapping, and as they have not been cultivated to any extent, the export of India rubber will dwindle into insignificance at no distant period, unless there is a change in this respect.

India rubber, called in South America *caucho*, and in Central America *hule*, is obtained in Nicaragua from the *siphonia elastica*, a tree growing to 50 or 60 feet in height. The collectors of rubber, called *huleros*, employ several methods to obtain it. The following are the three most generally used.

1. The trees are felled and V-shaped channels about 2 inches

deep and 2½ inches wide at the top and cut around the trunk 1 foot apart, from which the sap or milk flows through funnels formed of leaves into calabashes of holes made in the ground and lined with leaves.

2. The tree is left standing and two or three vertical channels, according to the size of the tree, are cut through the bark from top to base; then numerous oblique channels are cut connecting with the vertical ones. To do this work, the huleros improvise ladders from the vines and creepers which everywhere abound in the tropical forests. The milk from these channels is collected in the same manner as in the first process.

3. The huleros scrape off the outer bark of the tree with a "machete," commencing 8 or 10 feet above and extending down to within 1 or 2 feet of the ground. A ridge of clay, or a vine and clay, is so placed around the tree as to direct the flow of the milk into the receivers at the foot. This process is somewhat similar to that used in the turpentine orchards of North Carolina, Alabama, and Mississippi. The milk having been collected, coagulation is hastened by adding to it a decoction made from the vines of the liana or vines of the convolvulus or morning glory tribe, which abound in the forests, in the proportion of 1 pint of the decoction to a gallon of the milk. The rubber is then kneaded into round cakes. Sometimes, after the coagulating decoction is added to the milk, it is heated in the calabashes to 160° or 175° F., which produces a more elastic and less sticky rubber than is obtained by other processes.

The huleros make waterproof blankets and bags, which they prefer to any imported articles, as they do not become so heated when exposed to the sun and are less liable to crack or scale off. Their process is to spread the cloth on the ground, pour the milk over it, and distribute it evenly by paddles or cocoanut husks. A short exposure serves to dry the milk, and the goods are then ready for service.

Although the Government of Nicaragua has exercised no supervision of the forests and has taken no steps to prevent the ruthless destruction of the rubber trees, it has endeavored to stimulate their cultivation by issuing a decree giving a premium of 10 cents for every tree planted where the number does not go below 250 planted by one person. The decree also provides that the trees must be planted in squares of not less than 6 varas for each plant, equal to about 16 feet.

In all the lower regions of Nicaragua, particularly in those extending toward the Caribbean coast, there are large tracts of land suitable for growing rubber trees, and there is no doubt that their cultivation would prove very profitable to anyone who could afford to wait for a return from the capital invested until the trees reach maturity, which is from seven to ten years, or they could be planted as an investment where the planter is deriving an income from the other crops.

The value of the India rubber exported from Nicaragua, according to the latest report, which covered the period from July 1, 1888, to June 30, 1890, was $519,447.85.

BANANAS.

The cultivation of bananas for export has hitherto been largely confined to the Caribbean coast, finding the principal outlet at Bluefields, in the Mosquito reservation; but whenever the bars at the mouths of the rivers are improved so as to freely admit ocean steamers, and the interoceanic canal and railroads afford means of transportation, this fruit will become a still more prominent feature in the exports from Nicaragua, and the large profits yielded to the producers will stimulate agricultural operations on thousands of acres of fertile but now unoccupied lands.

The lands that have been generally used for the culture of bananas are the rich alluvial deposits of the valleys and river bottoms, but there are many upland regions where rain is abundant

or water is plentifully supplied by other means, which will produce abundant crops; and it is well known that bananas grown on high ground are finer fruit, being harder and less liable to damage from a sea voyage, and reach their destination in better condition. There is perhaps no industry in Central America that is more attractive to men of small capital than banana-growing, from the fact that the clearing of the land is effected cheaply and from the small cost of after cultivation which is limited only to such clearance of weeds and undergrowth as may be sufficient to allow access to the trees, and the short time necessary to produce a paying crop. When the trees and brush that have been cut in clearing the land become sufficiently dry, they are burned, and the banana suckers are then planted among the charred remains and ashes without any further preparation of the soil. The best results are obtained by giving the trees plenty of space, say from 15 to 18 feet apart. In about ten months, the first fruit can be gathered; but in the second year, the trees reach maturity, and by a proper management of the fruit stalks in a fair-sized plantation, a constant succession in the crop may be secured and fruit gathered every week throughout the year. The only careful work necessary on a banana plantation is in handling the heavy bunches so as to avoid bruising them, as any such injury causes a black spot to appear, beneath which decay rapidly commences as the fruit ripens. The natives have learned by experience, when they cut into the fruit stalk, so to gauge the strength of the blow as to cut just deep enough to cause the stalk to bend slowly over until the end of the bunch reaches the ground when another slash with the machete severs it, and it is loaded carefully into the cart. A plantation of 40 manzanas (about 69 acres) will, during and after the second year, produce about 54,000 bunches. The lowest price paid for bananas, for some years past, is 37½ cents per bunch, which would give an annual value for the crop of $20,250, or more than double the expenditure for purchase of land, clearing, cultivating, gathering the crop, and all expenses to the end of the second year.

There is another variety of the banana family, the plantain, with which the people of North America are only slowly becoming acquainted, but which deserves to be better known. Its production in Nicaragua need only be limited by the demand for it, which must become immense when its merits are appreciated. There, it is boiled, stewed, baked, roasted in the ashes, fried, dried and ground into flour, cooked in the skin or out of it, green or ripe, and produces vastly more nutriment per acre than is yielded by wheat, corn, or potatoes. When the cooks of the northern countries learn its use, it will become as valuable an article of food as the potato, and its cultivation in Nicaragua will become a large business.

CACAO.

Cacao (*Theobroma cacao*) is too well known to need any expression of opinion as to its value. That grown in Nicaragua is sold with advantage in the markets of the world.

The tree which produces it seldom exceeds 20 feet in height. The leaves are large, oblong, and pointed. The nuts are contained in long oval-pointed pods. It produces two crops a year. The trees are planted about 15 feet apart. When young, the plants are delicate, requiring to be sheltered from the sun in the same manner as is practiced in coffee plantations. At first, plantains or bananas are used for that purpose, but other quick-growing trees, such as that called by the natives *madre de cacao* (mother of cacao), are planted with them; and as these reach sufficient size, the plantains are cut down, leaving the trees as a permanent shade. The cacao begins to bear in about seven years, and continues to produce for from thirty to fifty years. Capital is therefore necessary to start a plantation, but when once well established and in full bearing, very little outlay is necessary, and the revenue is large, sure, and steady. It may be well to notice here the confusion that exists in the United States in respect to the

words cocoa, cacao, and coca. Although very similar in sound, they represent widely different articles.

Cocoa is the name of the species of palm that produces the cocoanut, a fruit too well known to need description; also, the fiber so largely used for making matting, mats, brushes, etc.

Cacao is the fruit of the cacao tree (*Theobroma cacao*) from which we obtain chocolate, and what is universally misnamed by the manufacturers as cocoa.

Coca is the name given to the South American shrub (*Erythroxylon coca*) which is used by the natives of Peru, Chili, and Bolivia, as the betel nut is in Asia, to allay hunger and thirst and supply a stimulant which gives energy to endure extraordinary exertion, and from which the well-known drug cocaine is prepared.

SUGAR.

Sugar cane grows in Nicaragua with extraordinary luxuriance. The canes are soft and contain no more woody substance or less saccharine matter than those produced in the East or West Indies, while their duration is wonderful. A crop can be secured within twelve months after planting, and thenceforward two, and in some localities, three crops a year can be cut for an indefinite number of years. It is not uncommon in traveling through the country to find fields of sugar cane in full production of which no one in the neighborhood can remember the date of planting. A great deal of the sugar manufactured in Nicaragua is of a coarse, brown quality, the juice being merely boiled until it crystallizes, without being cleared of the molasses. In this crude state, it is poured into molds forming small cakes, which are sold to the poorer classes.

A very large quantity of the sugar cane is used in the manufacture of a species of rum called *aguardiente*. The sale of spirits being a Government monopoly, the distillation can only be carried

on by license, and is principally confined to the larger producers. The bulk of the sugar produced in the Republic is manufactured in the district of Jinotepe, in the Department of Granada, where, although very primitive and imperfect methods are employed, it is stated that in the year 1890 the production amounted to about 2,500,000 pounds. The soil is admirably adapted for producing the cane, and a superior quality of sugar is made, but scarcity of water is a great drawback, and for this reason, unless artificial means of overcoming the difficulty can be devised, it will be impossible to carry on large plantations in the district. In the neighborhoods of Granada, San Rafael, and Pital, in the same department, there are also a number of plantations; those at Granada producing from 300,000 to 400,000 pounds of good vacuum-pan sugar, while those near San Rafael and Pital yield annually about 150,000 pounds of muscovado sugar. These plantations are under English management.

A company with a capital of $300,000 has lately been started for the working of a large plantation in Chinandega, at a place known as San Antonio. It is intended to use a first-class plant, with all modern improvements as regards machinery and cultivation, and to produce at least 300 tons of sugar yearly. Another company has taken in charge the Polvon plantation in the same department, and has imported new machinery capable of producing 500 tons of sugar annually. In the department of Leon, there are two plantations, the Polvoncito and San Pedro, producing together about 600,000 pounds of excellent vacuum-pan sugar.

The total production for the year 1890 amounted to about 3,500,000 pounds, in addition to which Nicaragua yearly imports from her neighbor Salvador nearly half that quantity.

COTTON.

Cotton is indigenous in Nicaragua, and the finest quality can be produced in vast quantities. Columbus, when he discovered the

country, found the natives dressed in garments of cotton cloth, and the Indians of the present day manufacture from it hammocks, sail cloth, and coarse cloth for clothing. The quantity raised is considerable, but entirely for home consumption, as, in spite of all natural advantages, Nicaragua can not compete, in raising cotton for export, with the capital, abundant labor, improved machinery, and ample facilities for transportation possessed by the United States; but if the time should arrive when Nicaraguan cotton will be required, either to supply manufactories at home, or in response to some demand from abroad, it can be produced in unlimited quantities and of quality equal to the best. Instead of being an annual plant as in the United States, it is here perennial, and, growing much larger, yields double the quantity that it does in the most favored locality in the Northern Republic.

OTHER AGRICULTURAL PRODUCTS.

Corn (maize) flourishes luxuriantly and forms, both for man and beast, literally the staff of life. Three crops can be raised from the same ground annually.

Tobacco.—All the tobacco used in Nicaragua, which is considerable in quantity, as every one smokes, is raised in the country. It is of good quality and can be cultivated to any desired extent, as there are large tracts of land well adapted to its use.

Rice is abundant and is extensively used. The climate and soil are suited to it, and it can be raised to supply all demands for it.

Indigo and cochineal were formerly produced in large quantities, but as they have been superseded by the introduction of mineral dyes, the cultivation of these articles has almost entirely ceased, particularly of the latter.

The *yuca*, the yam (*ñame*), and the sweet potato are the principal farinaceous roots that are extensively cultivated. The potato also thrives well and produces large crops in the more elevated regions.

The yuca is not only useful for food, but valuable from an industrial point of view, as the starch it yields could readily be made an extensive article of commerce.

The bread fruit grows to perfection in Nicaragua, although few of the natives seem to appreciate its full value. It can be easily raised from a slip and forms a tree with massive trunk and large dark green leaves, as handsome as it is useful. It begins to bear about three years after planting. It yields two crops in the year, one lasting through March and April and the other from August to October, although if a variety of trees were planted judiciously the fruit could be obtained every month in the year. Each fruit will weigh from six to ten pounds, and it is delicious either fried or boiled.

The cocoanut tree, which in the tropics is one of the most useful productions of nature, is abundant. It commences bearing at from five to seven years old and continues to yield for many years. On the Caribbean coast, it is an important article of commerce, although no efforts have been made to utilize the fiber of the husk, which in the East Indies has added so largely to the profits derived from cocoanut groves.

Frijoles, the brown beans that form such a prominent article of diet throughout Spanish America, are produced abundantly in all parts of the Republic, while all other edibles and fruits of the tropics yield ample crops, such as oranges, lemons, limes, citrons, shaddocks, pine apples, *mameys*, *chirimoyas*, *guavas*, *mangoes*, and *aguacates* (alligator pears). The vegetables of the temperate zone grow luxuriantly in the more elevated districts, where cabbages, turnips, radishes, lettuce, egg plants, and tomatoes can be obtained with a minimum of labor and care.

CATTLE-RAISING INDUSTRY.

Cattle-raising is one of the greatest sources of the public wealth of Nicaragua. Its production is large enough to supply with

abundance all the necessities of home consumption, and to allow a very profitable commerce in the exportation of cattle.

Large *haciendas*, owned by the richest and most influential people of the country, are entirely devoted to this industry.

According to Señor Gamez, dairy farms in considerable numbers have been established in the neighborood of the principal cities and towns of the Republic, and are doing well.

Chapter VI.

THE INTEROCEANIC CANAL.

While the question of interoceanic communication across the American Isthmus has been continually presented to the attention of the civilized world, with more or less persistency, since the days of Columbus, and while the route by way of the San Juan River and Lake Nicaragua has always been among those which offered the strongest claims for consideration, yet the special prominence of that route as a means to the end proposed may be said to date from the beginning of this century only, when that eminent explorer and scientist, the Baron Alexander Von Humboldt, published the account of observations made by him during a period of ten years spent in explorations and scientific research in the Spanish-American States of South and Central America. In his "Personal Narrative of Travels," Volume VI, he remarks:

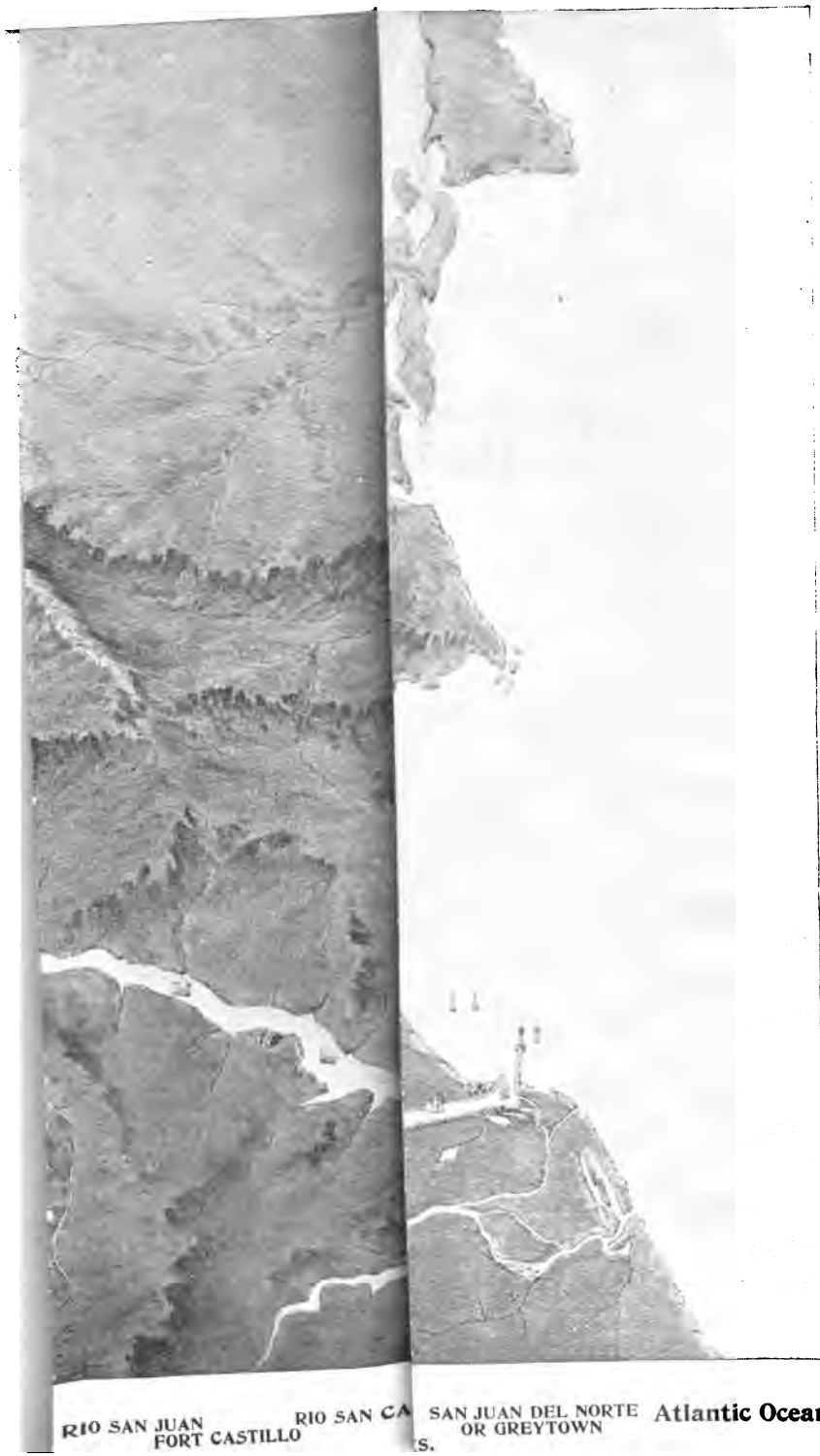
The five points that present the practicability of a communication from sea to sea are situated between the fifth and eighteenth degrees of north latitude.

They all consequently belong to the States washed by the Atlantic—to the territory of the Mexican and Colombian Confederacies, or, to use the ancient geographical denominations, to the intendencies of Oaxaca and Vera Cruz and the provinces of Nicaragua, Panama, and Choco.

They are the Isthmus of Tehauntepec (latitude 16°–18°), between the sources of the Rio Chimalapa and the Rio del Passo, which empties itself into the Rio Huascualco or Goazcoalcos.

The Isthmus of Nicaragua (latitude 10°–12°), between the port of San Juan de Nicaragua and the coast of the Gulf of Papajuyo, near the volcanoes of Granada and Mombacho.

CARAGUA CAN


RIO SAN JUAN
FORT CASTILLO
RIO SAN CA
S.
SAN JUAN DEL NORTE
OR GREYTOWN
Atlantic Ocean

The Isthmus of Panama (latitude 8° 15′–9° 36′).
The Isthmus of Darien or Cupica (latitude 6° 40′–7° 12′).
The canal of Raspadura, between the Rio Atrato and the Rio San Juan de Choco (latitude 4° 48′–5° 20′).

After some general remarks concerning features of the different routes, Von Humboldt continues: "The Isthmus of Nicaragua and that of Cupica have always appeared to me the most favorable for the formation of canals of large dimensions;" and what is very significant of his opinion as to the comparative advantages of these two routes is that, in his illustration of the advantages to commerce of a trans-isthmian canal, he uses the Nicaraguan route as the standard of his comparisons and the premise of his arguments. Though more recent and more exact information has not fully corroborated all of his opinions, it has fully confirmed all that he said or implied concerning the Nicaraguan route. A few years after the completion of his explorations, the Central American provinces threw off the yoke of Spain and became independent states confederated as the Republic of the Centre. One of the earliest acts of the Government of the new Republic was to empower and instruct Señor Don Antonio José Cañaz, envoy extraordinary to the United States, to call the attention of the United States Government to the project of opening a canal for communication between the Atlantic and Pacific oceans in the province of Nicaragua. Señor Cañaz accordingly, on the 8th of February, 1825, addressed a communication to the Department of State, at Washington, upon the subject. The Secretary of State, in his reply, gave Señor Cañaz assurance of the deep interest felt by the United States Government in the undertaking, and promised an official investigation of the facilities offered for its accomplishment by the Nicaraguan route.

In pursuance of the assurance thus given, the United States chargé d'affaires in Central America was instructed to make the investigation promised and to report thereon. From that time onward, the United States have given more or less attention to the

investigation of the question of isthmian transit, at times by individual or associated enterprise of private citizens, but more frequently under the direct control and direction and at the expense of the Government.

In 1826, a survey and estimate of cost—very inadequate, however—were made under the auspices of De Witt Clinton, Stephen Van Rensselaer, and Monroe Robinson, of New York, Edward Forsyth, of Louisiana, and C. J. Catlett, of the District of Columbia, and others.

In 1831, the Secretary of State instructed the United States chargé d'affaires in Central America to protect the interests of citizens of his country in certain negotiations concerning a canal then pending with the King of the Netherlands.

In 1835, Congress ordered an inspection of the different routes, and an agent was appointed, who, however, failed to comply with his instructions.

In 1837–'38, a survey of the route was made for the Government of Nicaragua by Lieut. John Bailey.

In 1838, Messrs. Aaron Clark, Herman LeRoy, William Radcliffe, of New York, Matthew Cary, of Philadelphia, and others memorialized Congress concerning the subject, in consequence of which a committee was appointed and a report made, and, in 1839, Mr. John L. Stephens was sent on a special and confidential mission to Central America, during which mission he made an investigation of the canal route and subsequently submitted a report upon it.

In 1844, the Nicaraguan Government solicited the aid of the French Government in prosecution of the undertaking, but failed to obtain any valuable coöperation.

In 1847, Nicaragua solicited the intervention of the United States against the attempts of Great Britain to secure control of the interoceanic canal route. This resulted in the negotiation of the Hise-Selva treaty, which, though never ratified, appears to

have been an important factor in the negotiation of the Clayton-Bulwer treaty in 1849, under which treaty, the United States understood that Great Britain relinquished the attempt so obnoxious to Nicaragua.

In 1849, at the same time with the ratification of the Clayton-Bulwer treaty, a concession was granted by Nicaragua to Cornelius Vanderbilt and his associates for an interoceanic canal. Under its provisions, a survey of the route was made, in 1850–'51, by Col. O. W. Childs, of Philadelphia, who is entitled to the credit of discovering and pointing out the lowest depression in the Cordillera between the Arctic Ocean and Cape Horn. His was the first thorough instrumental examination of the whole route, of which a record has been preserved, that responds fully to the demands of engineering science, and its general accuracy has been fully confirmed by all subsequent explorations.

The canal proposed by Mr. Vanderbilt was not built, and after several modifications of the contract, made at the request of the grantees, the concession finally lapsed and was declared forfeited by the Nicaraguan Government.

In 1858, a concession was granted to Felix Belly, of Paris, and associates, for construction of a canal by the route proposed by Col. Childs.

Mr. Belly had devoted many years of his life to explorations and to the solution of the Isthmian transit problem. He was an enthusiast concerning the advantages of the Nicaraguan line, but neither his knowledge nor his zeal won success. For several years, Central American affairs were in a very disturbed condition, and later on, the civil war in the United States had a discouraging effect upon the successful inauguration of large enterprises on this continent. Before Mr. Belly succeeded in obtaining the necessary funds, notwithstanding the favorable disposition of the Nicaraguan Government, his concession lapsed.

In 1852, there was commenced a series of explorations covering the whole of the American Isthmus. Some were undertaken

by individual enterprise directed to particular routes, but the more important were under the control and direction of the United States Government, the object being to secure a systematic examination of any and all the routes which presented any possibilities of a practicable solution of the problem. These explorations were carried on with more or less continuity until 1880; every locality possessing any claims for consideration was carefully examined, and data were accumulated for a competent and impartial comparison. The route through Nicaragua was explored in 1872–'73 and made the subject of a thorough report by Commander E. P. Lull, aided by Mr. A. G. Menocal as chief engineer.

In 1872, President Grant appointed a commission, consisting of Gen. A. A. Humphreys, Chief of Engineers, U. S. Army; Capt. C. C. Patterson, Superintendent of the Coast Survey; and Admiral Daniel Ammen, U. S. Navy, Chief of the Bureau of Navigation, "to examine into, make suggestions, and report upon the subject of interoceanic ship canal communication."

In 1876, the Commission reported as follows:

To the President of the United States:

The Commission appointed by you to consider the subject of communication by canal between the waters of the Atlantic and Pacific oceans across, over, or near the isthmus connecting North and South America, have the honor, after a long, careful, and minute study of the several surveys of the various routes across the continent, unanimously to report:

That the route known as the "Nicaragua route," beginning on the Atlantic side at or near Greytown, running by canal to the San Juan River, thence following its left bank to the mouth of the San Carlos River, at which point navigation of the San Juan River begins and by the aid of three short canals of the aggregate length of 3.5 miles reaches Lake Nicaragua, from thence across the lake and through the valleys of the Rio del Medio and the Rio Grande to what is known as the port of Brito, on the Pacific coast, possesses, both for the construction and maintenance of a canal, greater advantages and offers fewer difficulties from engineering, commercial, and economic points of view than any of the other routes shown to be practicable by surveys sufficiently in detail to enable a judgment to be formed of their relative merits, as will be briefly presented in the appended memorandum.

In 1879, the report was printed by order of Congress and the subject occupied the attention of one House or the other in the sessions of 1879, 1880, and 1881.

In 1880, a concession for a canal was again obtained from Nicaragua, this time by Capt. S. L. Phelps and his associates; but the failure of the bankers, with whom negotiations for capital were under consideration, prevented the achievement of the project.

The United States Government, at this point, became alive to the importance of facilitating the work as a national enterprise. In December, 1884, there was submitted to Congress a treaty which had been negotiated with Nicaragua for the construction of the canal by the United States and its joint ownership by the two Governments. At the same time, Mr. A. G. Menocal, civil engineer United States Navy, was ordered to Nicaragua to make final surveys for the Government. The treaty, however, failed of ratification by the Senate, and, the administration having changed, it was withdrawn for further consideration and was not again presented.

In 1887, the concession now held by the Maritime Canal Company of Nicaragua was granted to the Nicaragua Canal Association and the work of final survey and location was commenced thereunder by the association without delay. Early in 1888, a movement was made to secure a charter from the United States Government for the incorporation of the concessionary company. Bills were introduced in the Senate and House of Representatives for the purpose. That before the Senate passed without delay and, being identical in form, was permitted to take the place of the House bill. It finally passed the House, February 7, 1889, and was approved by the President and became a law February 20, 1889. On May 4, the Maritime Canal Company, thus incorporated, was formally organized. In the meantime, the association had also caused to be incorporated, as a necessary adjunct, a construction company, under whose direction the surveys and the work which had been commenced were carried on.

Since that time, the work of construction has progressed slowly, but steadily, until its recent suspension for lack of funds, demonstrating, step by step, the correctness of the theories and plans of the projectors of the enterprise.

The following is a concise description of the work proposed:

San Juan del Norte, or Greytown, on the Atlantic, and Brito, on the Pacific, are the termini of the canal. Its length from port to port is 169½ miles, of which 26¼ will be excavated channel and 142⅝ miles is lakes, rivers, and basins. The summit level is necessarily that of Lake Nicaragua, 110 feet above the sea. There will be three locks near either end. The summit level commences 12¾ miles from the Atlantic and extends to within 3⅛ miles of the Pacific. The summit reach will, therefore, be 153¼ miles long.

For 9¼ miles from the inner harbor at San Juan del Norte, the canal extends southwesterly across the lowlands of the coast to the foothills of the Cordillera, known as the Eastern Divide, where is located the first of the three eastern locks. Up to this point, the formation through which the canal is to be cut is entirely alluvial and will be excavated by machinery. The locks follow in close succession: No. 1 at 9¼ miles, as above stated, with a lift of 31 feet; No. 2, 1¼ miles further on, with a lift of 30 feet, and No. 3 about 2¼ miles farther on, with a lift of 45 feet. Here commences the summit level of the canal, at an elevation of 106 feet above the sea, which allows 4 feet of fall from the lake for flowage. Beyond the locks, a cutting is to be made through the eastern divide to the river San Juan, at a place called Ochoa, near to its junction with the San Carlos, where a large dam of the same elevation as lock No. 3 will be built, which, with such other embankments as are ascertained to be requisite, will impound the waters of the river and of small tributary streams in their valleys, forming a series of large basins at the elevation determined by Ochoa dam and by the locks.

The material to be moved in the excavation through the divide is principally solid, homogeneous rock and will all be needed and used in building dams, embankments, breakwaters, and other structures, for which it will also furnish a sufficient supply. The cutting through the divide will be about 3 miles long, with an average depth of 141 feet.

The dam at Ochoa is to hold the waters of the river permanently at the height of 106 feet above the sea. The lake level will be 110 feet. The difference, three-quarters of an inch per mile in the 64 miles of river, is taken as the slope necessary to enable a free discharge of the lake and river waters. By this dam, slack-water navigation all the way to the lake will be secured, and, with the exception of 28 miles above Toro Rapids, the navigation channel will be 1,000 feet wide and from 28 to 130 feet deep. Rock blasting and dredging above Toro

to the lake will be required to an average depth of 4½ feet in several localities; in all, for 24 miles. When the river channel is deepened it will have a bottom width of 125 feet and a top width from 500 to 1,500 feet. At two or three points the river bends will be improved by removal of projecting promontories, so as to decrease abruptness of the curves. The San Carlos debouches into the Rio San Juan a few miles above Ochoa. The hills bounding its valley on the east are not continuous at the proposed water level, and several embankments of inconsiderable height will be required to retain the waters backed up in the San Juan.

Dredging in Lake Nicaragua to an average depth of 10 feet in soft mud bottom, width 150 feet, for 14 miles from the shore, will secure a navigable channel of 30 feet to deep water.

From this point, the course of the canal is across the lake to the mouth of the Rio Lajas, where the western division of the canal commences. From the mouth of the Rio Lajas across the Western Divide, which is 43 feet above the canal level, to the valley of the Rio Grande and the Tola Basin, for 9 miles from the lake, there will be required considerable earth and rock excavation. About 5½ miles farther on, near La Flor, are located locks Nos. 4 and 5 and a large dam which impounds the waters of the Tola Basin. These locks terminate the summit level of the canal. They are close together, and will have a lift of 42½ feet each. Lock No. 6, about 1½ miles beyond, is the last of the western series, and will lower the canal to the level of the Pacific, with a lift of 21 to 29 feet, varying according to tidal conditions. From lock No. 6 to Brito, the western terminus, is 1¼ miles of alluvial excavation.

The terminal harbors of the canal will, in the case of San Juan del Norte, require restoration, and in the case of Brito, construction.

The plans for the restoration of the port of San Juan del Norte, which, until 1860, was easily accessible for vessels of 20 feet draft, but since then has been closed by drifting sands, are based on long-continued observation and investigation, and particularly take cognizance of the fact that the northwesterly movement of the ocean sands (brought to the coast from the mountains by the lower San Juan and its tributaries), under the influence of the prevailing winds, have extended the sand pits entirely across the entrance and sealed the port.

It is intended to oppose to the further movements of the sand drift a solid jetty or breakwater, about 3,000 feet long, projecting seawards at right angles to the shore line, to the 6-fathom curve, then to dredge under the lee of this jetty a new entrance. The shifting sands, arrested by this structure, will accumulate in the angle formed by it and the coast. As the triangular space becomes filled, the water may shoal towards the sea end of the jetty, and this will necessitate its extension until the new shore line is at right angles to the prevailing

wind, which, it will be remembered, is the northeast "trades." Eighteen hundred feet of the jetty, constituting its shore end, is to be built of creosoted timber, filled in with rock or concrete and fascines, the stone to be brought from the divide cut and laid or deposited at random.

The entrance channel is to be 30 feet deep and 500 feet wide at that depth. The inner basin or harbor proper, the depth of which is to be increased to 30 feet, is to have an area of upwards of 200 acres, which, with the enlarged section of the port reach of canal, gives a total harbor area of about 350 acres, exclusive of the remainder of the inner bay, where, throughout a considerable area, there is now a depth of from 10 to 20 feet.

Brito, the western terminus, is not now a harbor in any proper sense of the word, or even a roadstead, yet the practicability of constructing a harbor at this point has never been questioned, the only difference of opinion being as to details.

The Rio Grande discharges here; its lower course for 6,000 feet back from the beach is through a low valley, which, it is believed, once formed a large bay. A high, rocky promontory, connecting with the interior ridge, juts out into the ocean just north of the river mouth. It is proposed to build from this rocky point a breakwater 900 feet long, its extremity to be in 7 fathoms of water; also to build another jetty, normal to the beach, 830 feet long, the extremity of the latter to be nearly opposite and some 800 feet distant from the sea end of the former. A considerable area of deep water will be thus inclosed; but the principal portion of the harbor will be formed by excavation in alluvium, thus securing a deep, broad basin, penetrating 3,000 feet from the present shore line and 3,900 feet from the entrance.

The work of canal construction on the plan thus outlined went forward systematically until the summer of 1893. What has been accomplished, briefly stated, is as follows:

As soon as the first corps of engineers was landed, the surveying parties were organized and at once pushed out. Traversing the lowlands for a few miles back of San Juan del Norte were some sluggish streams, whose courses favored the idea of utilization for water-borne carriage of supplies. A steam snag boat was immediately set at work removing the obstructions, and barriers too heavy and massive for displacement otherwise were broken up with dynamite. The San Juanillo and Deseado were thus cleared and utilized for a distance of upwards of 30 miles of their course, but the streams were so crooked that the actual land mileage accomplished was only about one-third the distance by water. Then trails for the packers were cut out and footbridges built across impeding

streams and ravines, so that supplies could be transported with certainty, though slowly, to and beyond the eastern divide.

The San Juan River has long been used by a steamboat transportation company, and a large part of the produce of Nicaragua has, for forty years, been moved from the interior by this route. Steam transport, via the river, was, of course, availed of by the engineers when it served their needs, but much of the surveying work was remote from the river, and hence its unavailability, except in the region beyond "the divide" towards Ochoa, where the canal and river were in closer proximity. The canal line, beyond the dividing ridge, intersected the valleys of the San Francisco, Chanchos, and Danta. The channels of these streams were also cleared and made available for canoe traffic from the San Juan River.

Numerous camps and depots of supplies were constructed and stocked wherever necessary, and fleets of light steel canoes were employed as means of communication and supply.

At the site of all important works, such as dams, embankments, and locks, as well as at the points where heavy cuttings will be required, subterranean examinations have been made in great numbers. Earth augers were used where there was no rock, and when this was encountered, the annular diamond drill was used and cores of the rock itself brought up and preserved for future reference and examination by engineers and contractors proposing to submit tenders for work. Owing to the transportation difficulties, steam drills were impracticable and the work was accomplished with hand power.

The necessity of securing at once a safe entrance to the old harbor was realized as indispensable to economical and rapid progress, and the first work of actual construction begun was in execution of the engineers' plans for restoring the harbor. One of the means to this end was the erection of a breakwater for protection of the entrance.

As the pier advanced, it afforded a partial shelter to the beach to leeward, and also served as a barrier to the moving beach sand, which, impelled by the waves and prevailing winds, had formerly been driven constantly to the westward, and so built up and maintained the sand spit that thirty years ago closed the old port San Juan.

This artificial interruption to the operation of the winds and current, which were always active in bringing sand to build and renew the beach, permitted countervailing forces of nature to come into play, and the result was that, by the time the pier had been pushed out 600 feet, the sand beach under its lee was swept away and an open channel formed, communicating from the open ocean to the old harbor, now restored to the extent of permitting the entrance of light-draft seagoing vessels, and this at a point where, six months before, was

a sand bank 3 or 4 feet above the sea level. The outer end of the pier is in 20 feet of water, and a force is constantly engaged in filling in the spaces between the piles with mattresses, rock, and concrete. The depth of the channel under its lee reached 10 feet when the structure had been extended to 800 feet. In the winter of 1890–'91, a dredge increased this depth to about 15 feet, and this has been maintained since, except in very restricted areas, which are easily deepened by the dredging machines, if necessary.

During the summer of 1889, permanent buildings were begun, and building constructions have been in progress ever since. The structures are all of wood (pine from the United States) and roofed with corrugated galvanized iron. The offices, quarters, and hospitals are all ceiled and painted inside, have wide verandas outside, and are neat and comfortable. All the permanent buildings so far erected are in the immediate vicinity of San Juan, for at this point, is located the general headquarters, and here have been concentrated the most important operations.

The buildings now occupied consist of five groups, as follows: Headquarters, 8 buildings; hospital, 10 buildings; La Fé depot, 8 buildings; railroad headquarters, 9 buildings; Camp Cheney, 4 buildings; in all, 39 buildings.

Besides the above, there have been constructed numerous and extensive wharves equipped for unloading freight, sheds, small outhouses, water tanks, etc. The machine and smiths' shops are equipped with a varied and extensive assortment of modern machine tools, and a tramway connects the more important of these establishments.

Work in clearing the canal line of forest growth was begun in January, 1890, and for a distance of about 10 miles back from the coast, the clearing has the full width of 486 feet. The same work was commenced on the west side of Lake Nicaragua in the month of November, 1890, and for a distance of 9 miles, this ground is made ready for the active construction work.

The necessity for a telegraph line reaching to the interior, connecting with the telegraph system of the country and the ocean cables, very soon became apparent. The construction of a line was commenced and soon pushed through to Castillo, with its loops amounting to 60 miles.

As the heaviest body of work to be accomplished on the whole line is concentrated within a distance of 3 miles, at what has been designated as the "Eastern Divide," and as the time that will be required to complete the canal is measured by the time spent in the opening of this deep cut, it was felt to be important to install a plant for heavy rock-cutting at the earliest date possible. But so great were the difficulties of transporting heavy machinery, etc., from the harbor to the site that it was at once apparent there was no alternative to be considered but the immediate construction of a railroad. The road was begun

DREDGES, NICARAGUA CANAL.

in the summer of 1890. It extends across what had always been considered an impassable swamp. For the first 10 miles, there are but about 4 miles of naturally hard ground.

There are several places along the line where streams and other water courses are crossed. These are spanned by pile bridges, and a powerful steam pile-driver has been used in their construction. The length of road already built is 11 miles—the most difficult of the whole line—and 7 miles remain to be completed in order to reach the "divide." There are several miles of side track, switches, etc., already put down.

The road is equipped for construction work, and supplied with four locomotives, fifty cars, steam shovel, ballast unloader, jacks, and other requisite appliances. All the cross-ties and bridge timbers are of Northern pine and charged with 16 pounds creosote oil to the cubic foot. At the railroad terminus in the harbor is a fine wharf 264 feet long, built in the best manner of creosoted timber and equipped with modern steam conveniences for handling freight rapidly.

The survey for the remainder of the line, extending to the San Juan River at Ochoa, has been completed; in fact, there have been two lines surveyed and profiles prepared in sufficient detail to enable a close estimation of cost.

In the summer of 1890, there was purchased from the American Contracting and Dredging Company the very extensive and valuable plant used so successfully on the eastern end of the Panama Canal from the year 1881 to the collapse of that enterprise in 1888. It consisted of seven dredges, the most powerful ever built; two fine tugboats, twenty lighters, several launches, and a vast quantity of tools, spare parts, materials for repair and renewals, an entire machine shop, stationary engines, pumps, etc. Many of the articles are in abundance sufficient for completion of the canal. During the autumn of 1890, this property was transferred to San Juan del Norte. Upon its arrival, portions of it were immediately equipped for work, and three of the dredges have since been in use for various periods—two upon the line of the canal proper and a third in increasing the depth of the water at various points in the harbor and upon the bar. The canal line, to the width of 280 feet and depth of 17 feet, has been opened for 3,000 feet inland from the harbor, the material excavated being sand almost wholly. No buried wood or other obstructions to free dredging has been found.

Under a provision of the concession, the Canal Company has the right to expropriate private lands found requisite for its uses. It also possessed similar rights as against a company which held the exclusive privilege of navigating the San Juan River and Lake Nicaragua with steam vessels. In 1889, the Construction Company became the purchaser of the rights and property of the steamboat company, and since the purchase has opened the line in the interest

of the canal. The franchise is valuable independently, but in connection with construction its ownership became necessary to the company. Considerable acquisitions of private lands between Lake Nicaragua and the Pacific have been made under the expropriation provisions mentioned.

The country through which the course of the canal is laid for the first 10 miles from the coast is a flat, alluvial formation, the accumulation of centuries, with occasional lagoons and swamps covered with zacate and silico palms or the primeval forests and a dense, tangled, almost impenetrable, mass of underbrush and vines. From thence its course is through wooded and fertile valleys between low hills to the divide cut, and thence to a connection at Ochoa with the San Juan; above Ochoa, it receives the waters of the San Carlos. From the mouth of the San Carlos, the course of the San Juan—then and thereafter the route of the canal—is through what may be termed the highlands of the river, the abutting flanks of the Cordillera. Sixteen miles above the San Carlos occur the Machuca Rapids; 5 and 6 miles farther on, Balas; 6 miles beyond are Castillo Rapids, the most important of all; and 9 miles farther the Toro Rapids, beyond which, to the lake, the course of the river is through a broad valley of lowlands, bounded by remote hills. Above the San Carlos and at Machuca, the forests which clothe the banks of the river are tropical in luxuriance. The lofty trees are draped with vines which creep and twine among their branches and droop to the water's edge in massive walls of verdure.

Above Machuca there are occasional clearings—where the lands are cultivated or grazed—through which the distant hills appear. At other places the hills themselves rise with steep and almost precipitous slopes directly from the river. Squier likens this part of the river to the highlands of the Hudson. At Castillo is an old Spanish fort, garrisoned by the Nicaraguan Government. It was considered impregnable by its builders, but was captured by a British force in 1780. Post Captain (afterwards Admiral) Nelson was in command of the naval corps of the expedition.

The erection of a dam at Ochoa and the execution of other works of canalization will, of course, change many of the present aspects of the river, deepening its waters over the rapids, and in numerous places expanding them into broad and lake-like surfaces, adding to its advantages for navigation and to its beauties as part of an already delightful landscape. One important peculiarity of the San Juan, already adverted to, should be particularly noted. It is exempt from the floods common to other tropical streams. This is owing to the fact that the great lakes serve as receiving reservoirs, on the broad expanses of which the rainfall is stored and from which it is delivered slowly instead of being concentrated from the adjacent hillsides into narrow valleys, and thus massed into rushing torrential floods.'

The commercial problem which the opening of a canal across Nicaragua would solve is the same to-day as that which stimulated Columbus and his contemporaries and successors to their arduous efforts. The only difference is in the increased magnitude of its advantages.

It is still the discovery of a direct east and west route for the commerce of the world. Four centuries ago, that commerce consisted of the interchange of commodities between Europe and Asia. Since that time, there has been added to the nations then existing and to their growth in population, production, and consumption, a new continent, peopled now by 100,000,000 inhabitants, to whom the advantages of such a route for extension of their commerce is proportionately greater in a degree almost beyond computation than it was believed in the fifteenth century that it would be, if discovered, to the Spain, or France, or England, of those days, or than it can be to them to-day when completed.

Chapter VII.

RAILROADS AND TRANSPORTATION.

The existing railroad system of Nicaragua consists of two separate divisions. The first commences at the port of Corinto, on the Pacific, and terminates at Momotombo, on the northwestern shore of Lake Managua, where it connects with the line of steamers plying on the lake.

The stations and distances are:

From Corinto to—	Miles.
Chinandega	13
Chichigalpa	21
Posoltega	25
Quezalguaque	29
León	35
La Paz	50
Momotombo	58

The second division commences at the capital, Managua, on the southern shore of the lake of that name, and terminates at Granada, on the northwestern shore of Lake Nicaragua.

From Managua to—	Miles.
Sabana Grande	8
Portillo	11
Campuzano	14
Nindirí	17
Masaya	19
San Blas	21
Granada	32

The distance from the port of Corinto is therefore:

	Miles
Corinto to Momotombo, by railroad	58
Momotombo to Managua, by lake steamboat	32
Managua to Granada, by railroad	32
	122

RAILROAD STATION AT GRANADA.

At Granada, connection is made with the steamboat service on the lake and San Juan River, running to San Juan del Norte (Greytown), on the Caribbean coast, thus forming an interoceanic trunk line of communication through the country.

The above-named railroads and steamboat line on Lake Managua are owned and operated by the Government. The railroads were only completed throughout in 1886, but they had an immediate and most gratifying effect on the commerce and progress of the country. The total cost for the Government amounted to $2,005,583.90, most of which was paid out of economies made in several branches of the public service. The first division of the railroad was opened to the public on February 27, 1884, the second on May 1, 1886.

There are three classes of passenger coaches in use on these roads, first, second, and third class. The charge for first-class passengers is a little over 5 cents per mile, but in the third-class, the fare is somewhat less than 2½ cents per mile. First-class passengers are allowed 40 pounds of baggage free; third-class passengers, 25 pounds. All above this quantity is charged as first-class freight.

The rolling stock is all of American manufacture; the locomotives use wood as fuel. The first-class cars have a smoking compartment at one end, but in other respects are like the first-class cars used in the United States. The third-class cars are similar to the ordinary smoking cars run on the railroads in the United States, and they are used in the same way, as the women of the laboring classes smoke as much as the men. The cars are clean and comfortable, and the roads are well managed. Freight is divided into six classes, and is carried at rates varying from about 25 cents per ton per mile for first class to about 6 cents per ton for that of the fifth class. The sixth class is for dyewoods, which are charged at about 3½ cents per ton per mile.

According to Señor Gamez, this railroad yields annually to the Government a net profit of about $100,000.

The account for 1890 was:

Gross receipts	$295, 860. 20
Expenses	187, 851. 23
Net profit	108, 009. 06

representing an interest of a little over 6⅓ per cent per annum.

The movement of passengers in 1890 was as follows:

First-class passengers	41, 910
Second-class	41, 014
Third-class	292, 937
Total	375, 861

WAGON OR COMMON ROADS.

The topography of Nicaragua, especially all along the Pacific coast, is very favorable for the construction and preservation of wagon roads. Nature itself aids the Government in keeping them in good condition.

The carreta, drawn by oxen, is the principal means of transportation used on these roads.

There are two lines of stages between Granada and Rivas (51 miles), and between Masaya and Jinotepe (18 miles), subsidized by the Government, the former with $150 per month, and the latter with $50 also per month. They make daily trips during the dry season.

TRAFFIC ON LAKE MANAGUA.

The steamers plying on the lake belonged originally to a private company liberally subsidized by the Government. The charges which they made were so onerous that it became necessary for the commercial interests either to establish a new line, which would make competition with the old one in existence, or to induce the Government to buy the whole concern and organize the service upon a satisfactory basis. In pursuance of this plan a second company was organized, but when it was about to receive a steamer

which had been built in England by its order, the Government saw the necessity of making this service national and of freeing it from all contingencies. Contracts were then entered into with the two companies, and their vessels, as well as the whole property which belonged to them, became the property of the Government.

The first advantage which was derived from this transaction, besides a considerable reduction in the rates of freight, was the establishment of regular connections with the railroad trains, so as to cause the whole trip from Corinto to Granada, or *vice versa*, to be made in one day.

The movement during the first six months of the new arrangement was as follows:

Gross proceeds	$33,231.09
Expenses	13,241.04
Net profit	19,990.05

which is equivalent to an average monthly profit of $3,331.67.

The Government paid for the steamers $278,229.83.

The steamers now engaged in this service are: The *Managua*, 120 tons; the *Angela*, 120 tons; the *Progreso*, 100 tons; the *Isabel*, 20 tons, and the *Amelia*, 50 tons.

The three first named are spacious and have good accommodations for passengers.

In addition to the "national line," there is now another line of steamers, belonging to a foreign company, a large portion of whose stock belongs to the Interoceanic Canal Constructing Company. This company is called "Great Lake Steamers Company" (*Compañía de vapores del Gran Lago*), but it has only one steamer, called the *Victoria*, of 180 tons, which goes around the lake, touching at all its ports, eight times a month.

The table following gives the amount of cargo transported by the Lake Managua steamers during the space of six months, from January 1 to June 30, 1891:

Table showing the amount of cargo transported by the national steamers from January 1 to June 30, 1891.

Months.	Cargo.	Months.	Cargo.
	Pounds.		*Pounds.*
January	2, 140, 519	May	6, 080, 906
February	3, 306, 632	June	6, 413, 803
March	4, 248, 972		
April	5, 851, 507	Total	28, 042, 339

The following statement shows the cargoes transported for the first six months of 1890 and 1891:

	Tons.
1890	6, 970⅓
1891	14, 021
Difference in favor of 1891	7, 050⅔

THE SAN JUAN RIVER ROUTE.

The steamboat line via Lake Nicaragua and the San Juan River is the natural route for the commerce of the Republic, but complaints are loud and constant of the long delays that occur in transit. The fact is that competition is much keener in business than it was a few years ago; consequently, merchants can not afford the uncertainty and delay which attend the river service. The result is that since the construction of the railroad to Corinto, on the Pacific, the river transit company has been gradually losing its hold, and the bulk of the trade to and from the interior is finding its way via Corinto. This is certainly unfortunate, as the rates are necessarily high via the Pacific, and the route is much longer either to the United States or Europe; but the service is regular and frequent, and therefore obtains the preference.

The difficulty with the river route is the impossibility of maintaining a good service whenever the rains are insufficient to keep the lake at a high level. The rapids and shallows on the river are numerous and the cargo has to be carried over them in lighters when the river is low, causing delay and risk of damage to the

goods, necessitating also high freight rates, though they are less than the rates via the Pacific. The river steamers, three or four in number, are flat-bottomed, and make the trip twice a month.

OCEAN STEAMERS.

To facilitate foreign commerce the Government of Nicaragua has entered into contracts with several steamship companies, to which it pays liberal subsidies to perform the service in the following way:

On the Pacific side.—The steamers of the Pacific Mail Steamship Company from San Francisco to Panama regularly touch at San Juan del Sur and Corinto. When going north they touch at San Juan del Sur on the 5th, the 14th, and the 24th of each month, and Corinto on the 12th, the 15th, and the 25th. When going south they touch at the same ports, respectively, on the 7th, the 14th, and the 27th, and the 6th, the 13th, and 26th.

Passengers and merchandise carried by these steamers can reach the Atlantic when landed at San Francisco by means of the Pacific Transcontinental Railroad, and when landed at Panama by the Panama Railroad.

On the Atlantic side.—The steamers of the British Royal Mail from Southampton and the West Indies, which leave Aspinwall every two weeks.

Compagnie Générale Transatlantique, whose steamers leave Marseilles on the 9th, Bordeaux on the 19th, and Saint Nazaire on the 29th.

The Hamburg-American Company, whose steamers leave, Hamburg on the 4th, the 12th, and the 23d of each month.

The Compañía Transatlantica de Barcelona, whose steamers leave Santander on the 6th and 19th of each month.

The West Indies and Pacific Company and the Harrison line some of whose steamers leave Liverpool every Thursday, while some others leave every two weeks.

Steamers of the lines just named leave Colon or Aspinwall in the following way:

(1) For Plymouth, Cherbourg, and Southampton, via West Indies, every two weeks.

(2) For St. Nazaire on the 3d of each month; for Marseilles on the 12th, and for Havre and Bordeaux on the 22d.

(3) For Hamburg, Havre, and other ports on the 7th, the 15th, and the 26th of each month.

(4) For Santander and other ports on the 7th, the 15th, and the 26th.

(5) For Liverpool, via New Orleans, every Saturday; and for Liverpool, via Vera Cruz and New Orleans, every two weeks.

The steamers of the Pacific Mail make connection also at Panama with those of the South American Pacific Steamship Navigation Company, which touch at Guayaquil, Callao, Valparaiso, and other intermediate points.

The Pacific Mail is subsidized by the Government of Nicaragua with $8,000 per year, and is bound to carry the mails.

The steamers of the Cosmos German Line touch irregularly at Nicaragua. According to the arrangement made, the company is bound to send to Nicaragua at least five steamers during the year, some of which must touch at Corinto and some others at San Juan del Sur. They bring directly from Europe, or carry there from Nicaragua, cargoes of merchandise with the reduction of 10 per cent in the freight, such as is charged by the steamers of the Pacific Mail. The Government subsidizes the Cosmos Line with $300 for each round trip.

The steamers of the British Royal Mail touch at the port of San Juan del Norte, or Greytown, twice a month. An independent steamer of 250 tons burden does the service between San Juan del Norte, Bluefields, Boca del Rama, Rio Grande, Wuonanta and Princapulca, Cabo de Gracias á Dios, Corn Island, and Puerto Limon, making four round trips every month. This steamer re-

ceives a subsidy of $24,000 per year and carries the mails. It charges $10 per each ton of cargo, except when taken to Corn Island, in which case the freight is $15. The fare for passengers varies from $8 in first class and $5 in second class to $20 and $10, respectively, according to the distances.

DEVELOPMENT OF THE ATLANTIC SLOPE.

Nicaragua presents the remarkable feature of a country having its best lands and navigable rivers on the Atlantic slope, overlooking that ocean which is the highway to all the great markets of the world, but having all its great towns, its cultivated soil and its commerce on the Pacific side, where it is practically debarred from all the advantages offered by its opposite coast. This is also the condition of the other Central American republics, and it has long been their hope and effort to change this anomalous state of things. The Government of Nicaragua is fully alive to the importance of utilizing the magnificent resources of its eastern slope. It has done all in its power to encourage immigration, but it has become convinced that immigration on any useful scale is impossible without improved means of communication, and is, therefore, wisely bending all its energies in that direction, and evincing the most praiseworthy spirit of liberality in dealing with all plans that promise to aid in solving this all important problem. The progress of events and the attention that is now being attracted towards Nicaragua are steadily tending toward a removal of the difficulties that have hitherto stood in the way, the chief of which has been the lack of capital to effect the necessary improvements, to build the railroads and open the ports and rivers that will give access to the inestimable wealth of forest, field, and mine that lie awaiting the awakening hand of labor. When once these improvements are effected, there will be no need of laws to encourage immigration; thousands of the surplus population of Europe will readily find their way to Nicaragua.

INTEROCEANIC CANAL AND INTERCONTINENTAL RAILROAD.

In addition to the plans of internal improvement, indicated there are two great enterprises now before the world which promise inestimable advantages to the Republic—the Nicaragua Interoceanic Canal, a work of such importance that a chapter in this work has been especially devoted to it, and the Intercontinental Railroad from North to South, connecting the three great divisions of America. The railroad has not yet taken shape, but surveying parties have located pathways for the locomotive.

Chapter VIII.

CONSTITUTION AND LAWS; FINANCE AND TAXATION; PUBLIC IMPROVEMENTS.

Nicaragua is a Republic, sovereign, free, and independent. The form of government is popular and representative, and its powers are defined by a written constitution, which was adopted in 1858, and was based upon that originally formed in 1838 when the Central American federation was dissolved.

The Government is divided into three branches—legislative, executive, and judicial. The legislative power is vested in a Congress, consisting of two bodies, the Senate and the Chamber of Deputies. The Senate is composed of two Senators from each department, who are elected for a term of six years, but one-third of their number is renewed by election every two years. No person can be elected to the Senate who is less than 30 years of age, or a minister of the church; he must be the father of a family, and the owner of property not less than $2,000 in value. The members of the lower House are called Deputies and are elected for four years, but one-half are renewed by election every two years. By virtue of the Constitution, there is one Deputy for every 20,000 inhabitants in each district; but if the population of the district shows an excess of 10,000 or more over and above that number, then one more Deputy may be elected. The necessary qualifications for a Deputy are that he must be not less than 25 years of age, and not a member of the priesthood. Congress meets on the 1st of January every second year. The session lasts for ninety days, but may be prorogued after thirty days. Neither

chamber can adjourn for more than three days without the consent of the other.

The executive power is vested in a President, whose term of office is four years and who can not be reëlected for the term immediately following; he must be a native and resident of the Republic, not less than 30 years of age, not a member of the priesthood, must be the father of a family, and the owner of property worth not less than $4,000. But a native of any of the other Central American Republics may be chosen, provided that he is a naturalized citizen and has resided in the Republic of Nicaragua not less than fifteen years. He is inaugurated and enters upon his administration on the 1st of March.

The President is assisted by a Cabinet, which on November 30, 1892, consisted of four Secretaries or Ministers (Ministros). One of these secretaries was the head of the Department of Foreign Relations and Fomento or Promotion of Public Welfare. Another presided over the Department of War, the Navy and Public Instruction. The third Secretary was the head of a Department of the Interior, Police and Ecclesiastical Affairs, and the fourth was the head of the Department of the Treasury and Public Credit. The Ministers may take part in the deliberations of Congress, but without the power of voting.

The judicial power is exercised by a Supreme Court, divided into two sections, one of which is located in Leon and the other in Granada. Each section is composed of at least four judges and two alternates. There is also a well-organized system of subordinate courts and tribunals throughout the country, and justice is well administered.

The Constitution is wisely framed and liberal in its provisions, and the laws are as just and well adapted for the needs of a civilized community as can be found in any nation of the world.

By virtue of the Constitution, all persons born on the soil are free, and slavery and traffic in slaves is prohibited. No person

can be deprived of life, property, honor, or liberty except by due process of law.

The death penalty is inflicted only for murder, assault in a town if followed by death, or in the country if accompanied by wounds and robbery, and for arson under aggravated circumstances. The rights of petition and lawful assembly are recognized. The right to carry arms for lawful self-protection and defense, and to enter, reside in, travel over and leave the Republic without molestation, is guaranteed. Titles of nobility, hereditary honors, privileged classes, and prerogatives are not recognized. The inviolability of private correspondence, and of the house or domicile, as well as the right of private property, is recognized. Every citizen of Nicaragua has a right to vote at all elections if he is 21 years of age or more, or he will be enfranchised at 18 years of age if he holds a scientific degree or is the father of a family, holding property of not less than $100 in value, or has some trade or profession that produces that amount annually.

NATURALIZATION LAW.

Citizenship may be acquired by foreigners in the following manner:

1. If the applicant is a Central American, upon proof of his residence for one year within the Republic.

2. If the applicant comes from any other Spanish-American Republic, the residence must be for two years. If he comes from any other country, four years' residence is required.

It will be sufficient for Central Americans, after one year of residence has been completed, to state their desire to become naturalized in the Republic, but all other Spanish-Americans are obliged to give notice of their intention one year before their application for citizenship, and all other foreigners are required to give notice of their intention two years before their application.

All foreigners, however, have the power, without forfeiting

thereby their own nationality, to acquire public unoccupied lands on the same terms and conditions as the citizens of Nicaragua.

TAXATION AND FINANCE.

Taxation in Nicaragua is indirect, the revenue being derived from import duties, stamps, the Government monopolies of tobacco, liquors, and gunpowder, the tax on cattle exported, and the sale of unoccupied lands. The Government owns the railroad and the steamers on Lake Managua, which together have yielded, at date of last report, about 6 per cent on the cost. There are no taxes levied on real estate. Municipal taxation is moderate, and in the towns, consists principally of taxes for street lighting, police, water supply, etc.

The revenue of Nicaragua is steadily increasing. This improvement is indisputable evidence of the growing wealth and prosperity of the country.

The revenue from all sources was—

In the year 1851	$122,686.00
In the year 1870	737,284.00
In the year 1889	2,036,137.43
In the year 1890	2,370,183.49
In the year 1891	2,847,729,08

This improvement is demonstrated equally in every source from which the public income is derived.

Thus, in the year ending June 30—

1890, telegraph yielded	$34,152.92
1889, telegraph yielded	30,793.67
Increase	3,359.25
1890, post-office	35,774.73
1889, post-office	24,275.74
Increase	11,498.99
1890, railways	280,819.16
1889, railways	236,853.92
Increase	43,965.24
1890, public lands	15,770.56
1889, public lands	2,129.66
Increase	13,640.90

The expenses of the Government in 1891 were $2,968,961.14 which is slightly in excess of the income, which is accounted for by considerable sums having been spent in improvement of track, buildings, and rolling stock of railways, piers on the lakes, and public roads.

The sources of revenue of the Government of Nicaragua yielded in 1891, according to official statement, the following result:

Customs	$1,058,913.53	Tobacco	270,857.23
Customs House confiscations	835.02	Brandy	733,454.85
Fines	23,676.74	Stamped paper	27,772.48
Tax on cattle	111,134 20	Gun powder	18,404.50
Public lands	28,517,26	Sale of official publications.	130.85
National railroad	365,070.83	Miscellaneous revenue	52,714.33
National steamers	89,754.09	Unforeseen income	2,776.78
Telegraphs	35,510.95	Total	$2,847,729.08
Post-offices	28,195.44		

The expenses in 1891 were as follows:

Executive department	$675,719.50	Public works	497,039.33
Justice	71,186.54	Foreign relations	46,184.69
Public worship and charities	25,728.00	Public instruction	215,309.78
War	465,077.56	Extraordinary expenses	360,645.93
Collection of revenue	612,069.81	Total	$2,968,961.14

The national debt of Nicaragua, according to the official statement contained in the report of the Secretary of the Treasury in 1891, was as follows:

Interior debt	$932,309.20
Foreign debt	2,105,227.97
Total	$3,037,536.27

The largest portion of the foreign debt is represented by bonds payable in London in July, 1919, with interest at 6 per cent per annum. This interest is regularly paid.

There are two incorporated banks in the Republic, through which most of the commercial business of exchange, discounts,

etc., is done, but many private capitalists and merchants carry on a banking business and make loans on mortgages.

The banks above referred to are the Bank of Nicaragua at Managua and the Agricultural and Mercantile Bank (*Banco Agricola Mercantil*) at Leon. Both of them have branches in all the important cities of the Republic.

The unit of monetary value is the *peso fuerte*, or dollar; but foreign coins are allowed to circulate for their value in *pesos fuertes*. The Peruvian *sol*, the United States silver dollar, and all other Spanish American coins, are found in circulation, and received without difficulty. The subsidiary small coins are 5, 10, and 25 cents, and many of the old Spanish reals of 12½ cents are in circulation.

The standard of measurement is the vara, which is equal to 2.75 English feet. The manzana contains 10,000 square varas, equal to about 1¾ acres. The caballeria contains 64 manzanas.

RECENT PUBLIC IMPROVEMENTS.

[Report in 1893 by U. S. Consul Newell, of Managua, on public improvements. Reports from the consuls of the United States, No. 150, March, 1893, p. 369.]

During the past year and a half there have been a number of improvements made throughout the Republic of Nicaragua, the more important ones being the erection of markets, construction of street railways, and organization of water companies. Upon these I have the honor to report the following:

GRANADA MARKET.

For a number of years Granada was illy supplied with market facilities; in fact, I might say that she had none at all. The venders of merchandise, vegetables, fruits, salt, and sugar occupied stands in the wide corridors of the buildings that stand to the south and west sides of the plaza. Though the men and women standing and sitting in the corridors with their stock in trade presented a unique picture for the eye of the tourist, it was far from businesslike and the resort was an eyesore to the city. Around the plaza, the streets were always dirty, as the market women and men were constantly throwing into them the

goods that had proven unsalable. This condition of affairs at last aroused the attention of the more public-spirited men of the city, and the consequence is that Granada can now point with pride to a fine edifice.

This building is constructed in the usual form—that of a hollow square—the main portion of which is one story high, with a slightly pitched roof. Running from the main entrance through the entire building, is an arched corridor, the roof of which is of corrugated iron; this arch is supported by many iron columns, with fancy corrugated-iron capitals. At the four corners of the structure, stand towers which extend one story above the main building. These towers are ornamented with pilasters, crowned with cornice and pediment. On either side of the main entrance rise towers that project a story and a half beyond the roof of the main edifice. There is a stone pavement on the north and west sides of the market, the portion now completed, and cemented floors within the stores and other portions of the structure.

The construction of the market was begun May 20, 1891. It will occupy, when completed, a space of a little over 2 acres. The style of architecture is Renaissance. Stone and brick, with hydraulic mortar, are the materials of which the building is composed. The roof is constructed of iron and wood, covered with plastic slate from the United States. At this time only one-half of the structure is finished, while in the other half there is a provisional open market place.

The estimated cost of the edifice, when completed according to the plans, is $206,000 (soles). Already, there has been expended the sum of $70,000. The stone, brick, and mortar entering into the composition of the building are all native products; the ironwork is from England and the United States.

In the part now finished there are twenty-two rooms for stores, but the building, when fully completed, will contain forty-four such rooms. Besides these rooms there are one hundred and fifty stands for selling small articles, and fifteen special meat stalls. There are also a large number of pavement or curbstone spaces for the Indians, who come daily to sell small quantities of fruit, vegetables, and native wares.

From 250 to 300 persons are daily in attendance at the market, engaged in vending some commodity. The average daily revenue is $50; the expenses amount to $300 per month.

Granada's market was erected by the city council from money raised by a loan, which was floated at 80 cents on the dollar. The management of the enterprise was given into the hands of the capitalists subscribing the funds, and the structure was also mortgaged to them, along with the ground, until the nominal capital is repaid with interest at the rate of 1 per cent per month. The edifice is open every day in the week, Sundays and holidays not excepted.

MASAYA MARKET.

For many years anterior to the date of this report, Masaya possessed worse market facilities than Granada. It did not have even the corridors of buildings, like its sister city, for the congregation of its market people. They usually congregated in the plaza, under the shadow of the principal church, and there, in the wind and rain, sitting or standing upon the bare ground, awaited their patrons.

The matter of a market was considered by the Nicaragua Company (limited), an organization of English capitalists who have varied interests in this Republic, with headquarters in London, and to it is due the edifice that now adorns the city of Masaya.

This structure is very similar in design to that of Granada, and covers the same extent of surface—2 acres. It is entirely completed, and has sixty-four rooms that can be used as stores. There is a large covered way through the center of the building, which is in part for the accommodation of butchers and for the sellers of fruit, salt, and vegetables. The courts of the markets are surrounded with corridors, giving plenty of space for stalls. In the courtyards, are spaces allotted for carts. As in Nicaragua, many vendors come to market with sugar, salt, and plantains and sell direct from their carts, instead of selling from stalls. In connection with the market is a large public kitchen, where the market restaurateurs can prepare and cook food.

It is the intention of the management to soon introduce water into the building and add public baths.

The edifice was constructed at a cost of $106,000 in gold. It is built of volcanic stone taken from a quarry not far from the site of the market. As this stone is very black, the structure presents an appearance of great antiquity, and if it possessed an altitude greater than one story, would resemble more a castle than a market. The roof is surmounted with a parapet that extends around the entire building. At the main entrance, are two large, iron open-work gates painted dark blue and lined with gold. The market has four entrances, and on each side, there are handsome iron bracket lamps. Throughout the entire structure, in the stores and in the corridors, the floors are laid in Portland cement.

The monthly income is $1,150, and the expenses $300.

GRANADA TRAMWAY.

The street railway of Granada was projected about one year ago, and cars were run over the line for the first time in September last. The persons composing the company are citizens of Nicaragua, and, I believe, all residents of Granada. Originally, the idea of a tramway in the city was that of a foreigner, the same gentleman who conceived and carried into effect the Rivas street-car

line. After the company was organized, this foreigner disposed of his interest to the syndicate that now owns the line.

The length of the route is 1 mile 300 yards, extending from the railroad station to the market. The rails and the cars are of American manufacture, the first costing $5,000 and the latter $3,000 in gold. For laying the track, the sum of $3,000 was expended. It cost to bring the cars and rails to the city of Granada from New York, via San Juan del Norte, the sum of $2,000. An expenditure of $2,000 has been made for the purchase of land for the erection of a car shed and necessary offices, which will be erected at a cost of $1,000. Twenty-four mules now comprise the number of animals in service; these animals were bought for $60 per head.

Besides the sums mentioned, the company has expended the sum of $1,000 for incidentals and $1,500 for the rights held by the organizer of the enterprise. The total amount expended in organizing the company and constructing the line, to date, has been $24,740 (soles).

Originally the company was organized on a basis of thirty-five shares, valued at $500 per share. Since beginning and completing the line the company has been compelled to issue five more shares at the former valuation, so that there are now forty shares, representing a capital of $20,000 (soles).

The daily income averages from $13 to $15. On holidays, the earnings reach the sum of $50. The employés number seven, and the daily expenses are about $10.

The cars are the usual pattern denominated in the United States "bobtailed," though here they use two animals and employ both conductor and driver. According to the opinion of many, the company made a mistake in not having selected open or summer cars, which would be preferable in this tropical clime. At the present time, all the cars run one way, that is, the three cars leave the railroad station at about the same moment and change at the market. This necessitates delay, and in consequence the line is not as popular as it might be. The fare is 5 cents. This innovation has compelled the hack-owners to reduce their fares from 20 cents from the station to any part of the city to 10 cents, and from 30 cents from any part of the city to the station to 15 cents.

MASAYA WATERWORKS.

These works have been in operation since September 1, and were commenced about two years ago. The originators of this enterprise are foreigners, though a large portion of the stock is owned by Nicaraguans. The estimated cost of the plant is $130,000.

The point from which the water is derived is known as Tincuantepe, distant from Masaya 16 miles, and elevated above the city 800 feet. Around the fall of Tincuantepe, the scenery is very picturesque. The water is pure, wholesome, and clear as crystal. At Nindiri, a small Indian village, 1½ miles from Masaya, the company has built an immense reservoir, with an elevation of 140 feet, capable of holding 600,000 gallons. From Nindiri to Masaya, there is a pressure equal to 500 pounds to the square inch.

The mains are of 3 and 4 inch iron pipe. The principal main is laid on Monibo street. Few mains as yet have been laid on the side streets. This company was organized with a capital stock of $126,000; that is, thirty shares, at $4,200 per share. The piping was purchased in the United States. There is every indication to believe that the enterprise will prove a paying one. Masaya has a population estimated at 16,000, and is on the line of the national railroad running from Managua to Granada.

MASATEPE WATERWORKS.

Masatepe is a small village, about one hour and a half's ride from Masaya, and has within and around its confines a population of 10,000. The source of the water supply is Lake Masaya. This lake lies 300 feet below the town of the same name, surrounded, excepting on the western side, by precipitous cliffs, down which three or four rocky paths have been cut. In order to reach a proper level, the water is pumped from the lake to a height of 1,020 feet. The length of the main, that is, from the lake to Masatepe, is 3 miles.

A company was organized to construct these works on a basis of one thousand shares at $25 per share, and it is estimated that the plant cost $25,000.

LEON WATERWORKS.

On the 7th of July last, a concession was granted by the city of Leon to a company for the introduction of water and the erection of the necessary works. A company has been organized, with a capital stock amounting to $107,500, divided into two hundred and fifteen shares, at $500 per share. The municipality of Leon has subscribed for six shares. It is believed that the works will not cost less than $120,000.

The water is to be taken from the Rio Chiquita, distant about half a mile from the city. It is understood that the company will lay about 13 miles of piping between now and the early part of next year.

The enterprise should be successful, as it has a greater population to draw from than any other portion of Nicaragua. The inhabitants of Leon are supposed to number 40,000.

SAN ANTONIO SUGAR REFINERY.

Upon this enterprise I have already reported, but as the management has made some improvements since that report, it is proper to revert to it again.

The company has just lately purchased a mile of portable railway, costing $5,000 in gold. This machinery was bought in the United States, because it comes free into this country under the reciprocity treaty and because it is superior to all others. The company has also added electrical machinery to its already perfect sugar-refining plant. Electric lights will be placed in the main building and in the houses set apart for the officers and employés.

The San Antonio Sugar Company is the most important undertaking in Nicaragua, and, I believe, in the whole of Central America. Their object is to revolutionize the sugar industry of these countries, which their capital and extensive plant will well enable them to do.

The gentleman who has charge of the purchasing department of this concern assures me that American pumps and boilers take the lead of all others.

PROPOSED IMPROVEMENTS.

The business men of Granada are now considering the advisability of improving their water system. At this time the supply is very limited and inadequate to the needs of the city. This system will be improved if the gentlemen who have the new venture in hand can induce the old company to dispose of its interests. It is believed that the old company will sell. As soon as the transfer is consummated, the new company will proceed to expend $60,000 in improving the water system and $40,000 for electrical machinery. I am assured that the city of Granada will be lighted by electricity not later than the middle of the year 1893.

Besides the tramway that runs from the station to the market in Granada, it is proposed to construct another from the cemetery to Lake Nicaragua. Those interested in the project have estimated the cost to construct the line at $50,000 (soles).

The young men of Granada are considering the proposition of erecting a hippodrome, where there can be racing and a place for athletic games of all kinds.

It is proposed to construct public baths on the shores of Lake Nicaragua, in Granada.

Capitalists of Leon are considering the suggestion to build a tramway through the principal street and to the railroad station.

WILLIAM NEWELL,
Consul.

Chapter IX.

RELIGION AND PUBLIC INSTRUCTION.

Nicaragua is a Catholic country, and the constitution recognizes this fact by declaring:

ARTICLE 6. The religion of the Republic is the Roman Catholic Apostolic. The Government protects its practice.

No person is molested, however, on account of religious ideas.

Public instruction has been under the immediate and direct control of the Government ever since 1877, and that it is fully alive to the importance of the work is proved by the fact that it expends upon it 8 per cent of its income. Señor Gamez, in his *Noticias geográficas*, etc., says that the Nicaraguan Government expends for this purpose no less than $18,883.28⅙ per month, or $226,599.38 per year.

Besides the schools supported by the Government, there are others supported by the respective municipalities, and others exclusively private, or established and conducted by private enterprise.

When Señor Gamez wrote (1892), there were 263 Government schools, with 303 teachers, and an attendance of 16,554 pupils; 10 municipal schools, with 15 teachers and 871 pupils; and 37 private schools with 95 teachers and 1,895 pupils; total, 310 schools, 413 teachers, and an attendance of 19,320 pupils.

In addition to the primary schools, there are two "intermediate," or rather high, schools for boys, and one of the same character for girls, having together 51 teachers (42 for boys, 9 for girls), and an attendance of 1,441 pupils (724 boys, 717 girls).

Until very recently, there have been two universities in Nicaragua, one in León, and another in Granada, fully equipped for the teaching of jurisprudence and medicine, with powers to confer academical degrees. Under a decree promulgated by President Sacasa, the two universities have been consolidated into one.

There is but one public library in Nicaragua, which is located at Managua. It contains a very choice collection of the works of foreign and American authors, numbering 6,310 volumes and 600 pamphlets. This library is supported by the national Government, and derives no revenue save from that source, as it is free to the public.

Chapter X.

COST OF LIVING, WAGES, ETC.

The style of domestic architecture in Nicaragua is the same that prevails throughout the whole of Spanish America. The houses of the laboring classes vary in solidity according to the variations of climate; being, in the hot lands, near the coast, merely light structures of wood or cane and thatched with palm leaves. In the colder regions, they are built of adobe, or sun-dried brick, and roofed with tiles. The better class of houses are built in the old Spanish style which was introduced into Spain by the Moors, sometimes of two stories, but more frequently of one only, built around a courtyard or patio. In a warm climate, no pleasanter residence can be imagined than these houses. The thick walls are built of adobe, cemented and whitewashed, or of stone. These and the heavy-tiled roofs exclude the heat. The rooms are spacious and very lofty, with great doors, and windows without glass sashes, but closed by heavy wooden shutters and protected on the outside by a grating of iron bars. All the doors of the rooms open upon a veranda surrounding the patio, which is filled with shrubbery and flowers. Here, easy chairs and hammocks afford inviting resting places. In the towns, however delightful these houses may be as places of residence, the fact that the verandas and other embellishments are on the interior gives the street a gloomy appearance. The majority of city residences are also connected with stores. As a rule, few merchants or traders reside away from their places of business. Rents are high and have greatly increased of late

A NICARAGUAN HOUSE.

years. The better class of houses rent at from $40 to $100 per month. In the larger cities, many of the houses are built of stone, which is abundant and easily procured. The quality generally used is soft when first quarried and can be worked very easily, but hardens with age and exposure. With abundant material and cheap labor, there is no reason why such high rents should be maintained. In Managua, the capital, where the population is rapidly increasing, and in several other cities, the erection of houses for rent would be a lucrative investment, particularly as there are no taxes levied on real estate.

The markets are well supplied, but usually do not present any great variety of vegetables. In Managua, the market building covers an entire square. It was built by English capital under a Government concession granting a monopoly for twenty-five years. The selling is done principally by women. The following is a list of retail prices prevailing there at date of latest advices:

Coffee	per pound..	$0.30
Coffee, black	do....	.20
Rice	do....	.10
Cacao	do....	.80
Sugar, second class	do....	.10
Sugar, first class	do....	.20
Milk cheese, or queso de leache	do....	.30
Butter cheese, or queso de mantequilla	do....	.45
Frijoles	do....	.07
Corn	per medio, 12 pounds..	.30
Starch	per pound..	.20
Lard	per quart bottle..	.50
Butter:		
Native	per pound..	.60
Foreign	do....	1.00
Lemons	per dozen..	.12
Potatoes	per pound..	.07½
Flour	do....	.10
Plantains	three..	.05
Kerosene:		
Astral	box of 5 gallons..	8.00
Radiant	do....	6.00
Soap	per bar of 30 ounces..	.20
Beef, the best	per pound..	.15

Pork	per pound..	.10
Pepper, sold only unground	do....	.30
Salt	do....	.02½
Ham	do....	.38

These prices, as well as all others quoted, are in Nicaraguan currency, which averages from 30 to 35 per cent less in value than the United States gold dollar, consequently reducing prices in a corresponding ratio as compared with United States currency.

In journeying through the country, the traveler has to depend on such fare as he may be able to obtain at native houses and such stores as he may carry with him, but in the principal towns and cities there are hotels where fair accommodations and good rations are the rule. Hotel charges throughout the Republic are from $1 to $2.50 per day, the latter rate only at those of the higher class and in the principal cities. There are places where board can be obtained for less, but they are frequented by the lower class of natives only and would not be very attractive, especially to foreigners. The rates usually charged by the meal at the best hotels are: Early coffee, 25 cents; breakfast, 75 cents; dinner, 80 cents to $1. Board by the month is from $25 to $30, without room. An extra charge of $5 per month is usually made when meals are sent to the house of the boarder. Tea is rarely used and is only prepared at special request. Coffee and chocolate are the usual beverages, and both are invariably excellent. Beer, both European and American, can be obtained, but costs from 30 to 50 cents per pint bottle. California wines, 80 cents per pint bottle. Butter is rarely seen on hotel tables, and is not usually palatable when obtained. Meat is generally good. Chickens, turkey, and venison are usually served at dinner, and in the lake cities especially, fish is abundant and good. Eggs, cooked in omelets and in every other way, are staple articles of food. *Frijoles* (beans) and rice are the usual vegetables, occasionally varied by potatoes, cabbage, squash, and pease, but as a rule, vegetables are not served in great variety.

Clothing is reasonable in price. The customer usually provides his own cloth, which costs from $3 to $5.50 per yard, and the tailor charges from $10 to $16 for making a suit, according to the style and trimmings required. Ready-made clothing can be obtained at from $9 per suit upwards.

Shoemakers charge from $5 to $6 per pair for gaiter shoes and for low-quarter shoes $4 to $5.50. Ready-made shoes are sold at $4 for low quarters and $7.50 for gaiters. Russet shoes sell for $4. Ladies' shoes, from $3 up per pair. The shoes found in the stores are invariably of American manufacture and come largely from Boston. It is very rarely that shoes of European make can be found in the stores of Nicaragua. Dressmakers charge for making dresses as follows: Ordinary calico house dress, $2; street costume, $5 to $7; ball dress, $10 to $15. Ladies' hats, trimmed, sell from $4 to $20, but there is little demand for millinery, as the pañolón and reboso are used in preference to the hat or bonnet.

Labor is plentiful in Nicaragua, at least so far as present needs are concerned. But to carry out any great public work or to develop the immense resources of the country on the scale that will be required whenever the facilities for transportation are improved, it will be necessary to import laborers and encourage immigration.

The following is a statement of the wages received by the different classes of labor. It also shows the salaries paid by the Government to those employed in the railroad, steamboat, and telegraphic service. The amounts are stated in Nicaraguan currency:

Description.	Wages.
	Dollars.
Clerks, mercantile:	
Natives ..... per month..	20.00 to 40.00
Foreigners ..... do....	50.00 to 150.00
Stone masons ..... per day..	1.50 to 2.00
Carpenters .. .. do....	1.00 to 2.00
Furniture-makers ..... do....	1.50 to 2.00
Journeymen tailors ..... do....	.80 to 2.00

Description.	Wages.
	Dollars.
Machinists ..... per day..	3.00 to 5.00
Cooks ..... per month..	6.00 to 14.00
Blacksmiths ..... per day..	1.00 to 3.00
Shoemakers ..... do	1.00 to 2.00
Tile roofers ..... do....	1.50 to 2.00
Wagon-makers ..... do....	1.00 to 2.00
Railway service:	
Auditor ..... per month..	80.00
General superintendent ..... do....	200.00
Private secretary ..... do....	100.00
Traffic manager—	
Eastern section ..... do....	130.00
Western section ..... do....	150.00
Secretary ..... do....	45.00
Assistant auditor ..... do....	60.00
Telegraph operator, superintendent's office ..... do....	25.00
Storekeeper ..... do....	35.00
Road master ..... do....	125.00
Bridge inspector ..... do....	60.00
Conductor ..... do....	60.00
Machinists ..... do....	110.00
Collector and paymaster ..... do....	60.00
Inspector of cars ..... do....	55.00
Ticket agent ..... do....	30.00
Station master—	
Granada ..... do....	55.00
Central station ..... do	50.00
Sabana Grande ..... do....	40.00
Campuzano ..... do....	40.00
Nindiri ..... do....	30.00
Masaya ..... do....	70.00
San Blas ..... do....	30.00
Master mechanic ..... do....	200.00
Foreman, machine shop ..... do....	150.00
Founder ..... do....	115.00
Timekeeper ..... do....	50.00
Telegraph service:	
Operators ..... do....	60.00 to 125.00
Linemen ..... do....	18.00 to 19.00
Steamer service:	
Captain—	
Steamers Managua and Angela ..... do....	100.00
Steamer Progreso ..... do....	80.00
Steamer Amelia ..... do....	60.00
Steamer Isabel ..... do....	60.00
Superintendent of steamers ..... do....	100.00
Master mechanic of steamers ..... do....	300.00
Wharf master—	
At Managua ..... do....	60.00
At Grenada ..... do....	50.00
Engineers, railways and steamers ..... do....	110.00
Firemen ..... per day..	1.40
Brakemen ..... do....	.80

PRINCIPAL STREET, GREYTOWN.

The coffee-pickers are paid by the task, about 40 pounds of green berries for 10 cents.

Ordinary laborers, cartmen, and farm laborers receive from 40 to 80 cents per day.

Notwithstanding these low wages, food and clothing are so easily obtained, the climate is so genial, and nature has been so bountiful that the people all look contented and well fed. Old people and children appear to be well cared for, few beggars are seen in the streets, and nowhere are such appearances of poverty and squalor as may be seen in the large cities of the United States and Europe.

Chapter XI.

COMMERCE.

Notwithstanding the natural difficulties of insufficient means of transportation, the commerce of Nicaragua is steadily increasing. This is due in part to the extension of its fruit trade, which is principally transacted on the Caribbean coast, and in part to the growth of the coffee shipments, made chiefly from Pacific ports. The following table shows approximately the increase of the trade between Nicaragua and the United States. Such statistics are to be considered with a knowledge of the fact that the imports are stated in Nicaraguan currency, while the exports are calculated in that of the United States. Notice must also be taken of the further fact of possible undervaluations on goods upon which import duties are collected.

	1888.	1889.	1890.
Imports into United States from Nicaragua...	$1, 496, 171	$1, 747, 246	$1, 655, 690
Exports to Nicaragua from United States	927, 022	1, 009, 687	1, 373, 019
Balance against United States.....	569, 149	737, 559	282, 671

In so far as these figures show a steady increase in the trade between the two countries, they will be accepted as gratifying evidence of progress in that direction. Those, however, who see in them an advantage to the United States because of a diminution of the "balance of trade" against this country will be forced

to explain in what manner Nicaragua is benefited under their hypothesis.

The shipments of coffee from Nicaragua were:

For the two years ending—	Pounds.
June 30, 1884	12, 696, 400
June 30, 1886	14, 247, 200
June 30, 1888	12, 424, 300
June 30, 1890	19, 786, 400

Many new coffee plantations have been started within the past few years and it is believed that exportations of this product must continue to increase.

The following table shows the amount of coffee exported from Nicaragua to the United States within the past ten years:

Year.	Pounds.	Year.	Pounds.
1881	959, 200	1886	2, 331, 400
1882	2, 168, 500	1887	2, 700, 000
1883	1, 356, 400	1888	3, 426, 100
1884	2, 382, 000	1889	3, 743, 372
1885	2, 033, 600	1890	3, 735, 196

Inasmuch as the price of coffee has increased, it will be understood that this industry is an important factor in the prosperity and wealth of the country.

The following table shows the total foreign commerce of Nicaragua, including exports and imports, for the periods stated:

For the two years ending—	
June 30, 1884	$8, 699, 629. 59
June 30, 1886	8, 410, 188. 26
June 30, 1888	9, 252, 948. 83
June 30, 1890	14, 563, 113. 51
Of this last amount—	
The imports were	7, 566, 293. 02
The exports were	6, 996, 820. 49
Showing an apparent excess of imports of	569, 472. 53

Here, again, it must be noted that the imports are stated in Nica-

raguan currency, while the exports are calculated on the gold basis of Europe and the United States.

The largest importers of Nicaragua's products are the United States, Germany, France, and England, in the order named, but the purchases of Nicaragua from foreign countries change this order. England stands first, followed by the United States, France, and Germany. The imports from the United States, however, are increasing so rapidly that England may not long continue to head the list.

The exports of Nicaragua for the two years ending June 30, 1890, comprise the following articles:

Coffee	$4,216,834.31	Gold bullion	$299,023.50
India rubber	519,447.85	Silver coin	606,008,07
Dyewoods	299,984.00	Sundries	705,077.07
Extracts of dyewoods	153,259.20		
Hides	197,186.49	Total	6,996,820.59

Señor Gamez, in his *Noticias*, approved by the Government, and therefore of an official character, says:

In 1858, when the social and political reorganization of the country was accomplished, the total imports into Nicaragua amounted to $362,306. Subsequent to that date a steady increase, each year larger, has taken place. In 1890 (the last year upon which the writer had official information) the total imports into Nicaragua represented the sum of $4,268,405.27.

The exports in the same year were $3,833,614.28.

The imports into Nicaragua in 1890, classified by countries, were:

From England	$1,324,526.89	From Central America	$74,269.09
From British Guiana	946.88	From other countries, through San Juan del Norte	38,813.85
From France	690,659.77	From Spain	14,964.11
From Germany	643,783.71	Importation made by the Government	312,222,89
From Italy	3,224.05	Importation of coin	317,966.95
From the United States	811,978.41		
From Jamaica	8,194.17	Total	4,268,405.27
From Colombia	18,415.27		
From Ecuador	4,904.19		
From Trinidad	1,251.35		
From the Argentine Republic	2,283.69		

The exports were as follows:

To England	$461, 110. 62	To Spain	$11, 112. 80
To France	793, 249. 50	To Chile	4, 476. 75
To Germany	863, 431. 89	To Peru	1, 519. 10
To Italy	34, 413. 30		
To the United States	1, 169, 050. 64	Total	3, 501, 030. 98
To Colombia	5, 109, 60	Exportation of coin	332, 583. 30
To Belgium	4, 057. 60		
To Cuba	734. 40	Grand total	3, 833, 614. 28
To Central America	152, 764. 78		

It appears from the above that the nation which imported Nicaraguan merchandise in larger quantity than all others was the United States. Then came Germany, France, and England. England, however, sent more goods to Nicaragua than the United States, and the United States more than France, and France more than Germany.

The principal products capable of being exported from Nicaragua have been up to this date coffee, India rubber, dyewoods, hides, and gold in bullion.

The principal articles of importation into Nicaragua are:

Oils, vegetable, animal, and mineral; spirits; cotton, raw and manufactured; firearms; boots and shoes; carriages; waterproof cloaks; white beeswax; canned eatables of all kinds; glassware; drugs and medicines; mirrors and all kinds of parlor ornaments; stearic candles; matches; flour; iron, in bars and plates; machetes, clubs, hoes, and all kinds of agricultural implements; household articles; soap; wool, raw and manufactured; silk, raw and manufactured; linen, raw and manufactured; machinery; engines and materials for railroads, steamboats, and mining and agricultural enterprises; pipes; haberdashery; toys; silver coins; wooden house furniture; school furniture; all kinds of paper; perfumery; pianos and musical instruments; tanned skins; paints and varnishes; watches, clocks, and jewelry; small metal ware; empty bags; all kinds of hats; all kinds of wines; books; lamps; fancy articles.

No consular certification of invoices is required by Nicaragua. Invoices must be made out in triplicate, and valuation and customs duties are adjusted in the custom-house of the port of debarkation. Duties are levied on all goods according to weight.

The commercial interests of Nicaragua are so closely identified with the question of transportation that it is impossible to touch on one subject without some reference to the other. The few years that

have elapsed since Lakes Nicaragua and Managua were connected by railroad and steamboat lines with the port of Corinto on the Pacific coast have been sufficient to demonstrate the immediate and gratifying effect that this improvement has had on the commerce and progress of the country, but the great necessity remains for rapid and cheap communication with the Atlantic coast. When goods reach the Pacific, they have to bear the expense of transportation over a circuitous route by way of Panama and the high freight charged by the Panama Railroad Company in order to reach either the United States or Europe.

By this route and by railroad and steamboat to Corinto, the rate of freight on coffee to New York, in Nicaraguan currency, is:

From Granada	per ton..	$40.40
From Masaya	do....	39.20
From Managua	do....	36.80

The rates by steamers on the River San Juan to the Caribbean coast are high, although considerably less than the cost of transportation via the Pacific, but this is more than counterbalanced by the uncertainty and delay caused by the rapids and shallows which attend the river service. The rates of freight are low between the United States or Europe and the Atlantic ports of Central America; consequently, whenever the projected railroad in that direction from Lake Nicaragua is completed, a great reduction will be made from the rates now paid by way of the Pacific ports as above quoted. But the hopes of Nicaragua are centered on the Interoceanic Canal. When that great work shall have been completed, Granada will be virtually a seaport, and Atlantic liners will be able to load and discharge their cargoes at her wharves; in fact, Lake Nicaragua will become a vast dock, where, by means of railroads, the commerce of Central America will find its center and point of distribution.

A complete list of freight rates between New York and the

Pacific ports, and from Corinto to interior points by railroad and steamboat, is given hereafter. The passenger rates* are:

To Bluefields from New Orleans:

Cabin	$40
Deck	20
To Grey Town from New York direct (cabin)	100
To Grey Town from New York, via Colon	145
To Corinto from New York, via Colon	140
To Corinto from San Francisco	105
To San Juan del Sur from San Francisco	105
To San Juan del Sur from New York, via Colon	130

*Rates of freight from Nicaraguan ports to New York by Pacific Mail Company's steamers.**

[United States gold currency.]

Articles.	From San Juan del Sur or Corinto.
	Dollars.
Bark, pound	.024
Balsam, do	.026
Cochineal, do	.02
Coffee, do	.01
Coffee in shell, do	.01
Cacao, do	.013
Cotton, cubic foot	.50
Cigars, do	1.15
Cedar logs not exceeding 2,000 pounds each, 1,000 feet	30.00
Deer and goat skins, pound	.02
Dyewoods, do	.0075
Ginger, do	.01
Hides (dry):	
Folded, each	.40
Loose, do	.50
In square bales, compact and well tied, pound	.018
India rubber, do	.015
Indigo, do	.02
Orchilla, do	.025
Ore (silver, copper, or tin):	
Value not exceeding $500 per ton, do	.0075
Value over $500 and not exceeding $1,000 per ton, do	.01
Value over $1,000, ½ per cent additional, do	.0075
Pearl shells, do	.013
Plants, cubic foot	.75
Ramie and other plant fibers, do	.40
Sugar, pound	.01
Sarsaparilla, do	.025
Tobacco, do	.02
Wood, mahogany, rose, and other hard woods, shipped from June to January, inclusive, pound	.008
General merchandise, not elsewhere enumerated, do	.01½
Do, cubic foot	.75
Gold, silver, and valuables (on value), 1½ per cent.	

*It should be noted that the rates for passengers and freight are subject to changes from time to time.

Rates of freight from New York to Nicaraguan ports by Pacific Mail Company's steamers.

[United States gold currency.]

Articles.	From San Juan del Sur or Corinto.
	Dollars.
General merchandise, not elsewhere enumerated ..... cubic foot..	0.65
Do ..... pound..	.012
Opium ..... do....	1.50
Ivory goods, laces, ribbons, plate glass (released), silks, velvets.. cubic foot..	.90
Billiard tables, cutlery, cigars, firearms, type, tea, wire cloth ..... do....	.75
Do ..... pound..	.015
Blacking, bacon, candles, common clocks, cotton seed, dried fruits, drugs, hams, hose, hops, liquors (barrels and boxes), medicines, paints, platform scales, pickles, raisins, solder, spices in double bags, turpentine, tin, varnish, vinegar, wines (boxes and barrels), yellow metal, sulphur, wax ..... cubic foot..	.65
Do ..... pound..	.013
Cotton goods, canned goods, cotton duck, domestics, linen goods, sewing machines, woolen goods, yarns ..... cubic foot..	.65
Do ..... pound..	.012
Agricultural implements, bags and bagging, brooms, boilers (iron) with furnaces, carriages, cars, car wheels on axles, doors, earthenware, felting, furniture, glue, glass (window), hardware, insulators, kettles (iron and copper), glassware, copper, edge tools, lamps (common), machinery, oakum, oil (in cans), pumps, rope, railings (iron), safes (iron), stoves and fixtures, sugar pans, soap, starch, shooks, shovels, sashes, shot, sugar mills, tinware, trunks (empty, nested), wire (brass and copper), wooden ware, printing papers, straw wrapping paper, ... cubic foot..	.55
Do ..... pound.	.011
Butter, beef, cheese, lard, pork, rice, salt fish, tallow ..... do....	.012
Axles, car wheels, caustic soda, cement, clay, fire brick, iron wire, lead, pitch, resin, roofing slate, stove castings, tar, tiles, zinc, blue vitriol, ... pound..	.01
Iron (band, bar, hoop, sheet, corrugated), iron pipe and tubes (small), nails ..... pound..	.01
Iron-fence wire (barbed) ..... do....	.011
Lumber—	
White and yellow pine ..... 1,000 feet..	36.00
Oak, cedar, mahogany, etc ..... do....	43.00
Crackers, flour, maizena, meal, shipbread, sugar, vegetables (boxes and barrels), dried fish, lager beer (bottled in boxes or barrels). cubic foot..	.50
Matches in tin-lined cases ..... do....	1.00
Acids and gunpowder ..... pound..	.10
Cartridges (metallic) ..... do....	.02
Manufactured tobacco ..... cubic foot..	.75
Do ..... pound..	.015
Unmanufactured tobacco ..... cubic foot..	.70
Do ..... pound..	.014
Plated ware, silver ware, jewelry, watches, pistols, etc. (1 per cent on value in addition) ..... cubic foot..	.60
Gold and silver coin, precious stones, etc., on value, 1½ per cent.	
Parcels not exceeding 2 cubic feet ..... each..	2.50

Goods taken by weight or measurement at carrier's option.

FREIGHT ON NICARAGUA RAILROAD.

Freight is divided into six classes, and the charges are according to the following tariffs:

First class.—Baggage:

[Per 100 pounds, Nicaragua currency.]

	Cents.		Cents.
Corinto	0	Managua	90
Chinandega	20	Sabana Grande	100
Chichigalpa	30	Portillo	105
Posoltega	35	Campuzano	107
Quezalguaque	40	Nindirí	110
León	45	Masaya	115
La Paz	65	San Blas	120
Momotombo	75	Granada	125

There is an extra charge of 25 per cent on all baggage received at station too late to be manifested.

Second class.—General merchandise and any other article not specified in other classes:

	Cents.		Cents.
Corinto	0	Managua	67
Chinandega	13	Sabana Grande	74
Chichigalpa	20	Portillo	77
Posoltega	23	Campuzano	80
Quezalguaque	26	Nindirí	82
León	30	Masaya	84
La Paz	45	San Blas	90
Momotombo	52	Granada	94

Third class.—Empty sacks, cables, steel and iron in bars or plates unmanufactured, wire for fencing, galvanized iron buckets and pitchers, axletrees, springs, washers and nuts for carriages and carts, iron or copper boilers for manufacturing purposes, machetes, spades, hoes, pickaxes, wooden shovels and axes, sugar, coffee, flour, corn, beans, rice, wheat, barley, and other cereals, potatoes, onions, garlic, fresh fish, rosin, caustic soda and potassa, unpolished marble in parts or works of 100 pounds and upwards, starch, empty barrels or without hoops, carriages in parts or mounted, staves and shooks, plows, cultivators, asphalt, grain winnowers, quicksilver for mining, hydraulic pumps, iron or clay pipes, steel or iron basins, galvanized iron for roofing, ducts, and ridges, cheese, and hides of the country:

[Per 100 pounds.]

	Cents.		Cents.
Corinto	0	Managua	49
Chinandega	10	Sabana Grande	53
Chichigalpa	16	Portillo	55
Posoltega	17	Campuzano	57
Quezalguaque	18	Nindirí	59
León	22	Masaya	61
La Paz	30	San Blas	65
Momotombo	34	Granada	67

Fourth class.—Fruits of the country, cement, bricks, sawed timber, table salt, foreign; fertilizer, lime and cement; coal; iron or wooden buildings, complete; machinery, tiles, native soap, aniline extracts, charcoal, rice, and hay:

[Per 100 pounds.]

	Cents.		Cents.
Corinto	0	Managua	41
Chinandega	6	Sabana Grande	45
Chichigalpa	10	Portillo	46
Posoltega	11	Campuzano	48
Quezalguaque	13	Nindirí	49
León	15	Masaya	50
La Paz	22	San Blas	53
Momotombo	26	Granada	55

Fifth class.—Dyewoods and extracts, building stone, roofing cane, sugar cane, henequen and pita fibers, clay bricks, sand, earth, aluminum, fodder, native hay and salt, lumber, ashes, and textiles:

[Per 100 pounds.]

	Cents.		Cents.
Corinto	0	Managua	32
Chinandega	5	Sabana Grande	34
Chichigalpa	8	Portillo	35
Posoltega	8	Campuzano	36
Quezalguaque	9	Nindirí	37
León	11	Masaya	38
La Paz	15	San Blas	40
Momotombo	17	Granada	41

Sixth class.—Dyewpods for exportation:

		Dollars.
Western division:		
From Momotombo to Corinto	per ton	2.10
From La Paz to Corinto	do	1.95
From León to Corinto	do	1.80
From Quezalguaque to Corinto	do	1.75
From Posoltega to Corinto	do	1.75
From Chichigalpa to Corinto	do	1.70
From Chinandega to Corinto	do	1.60
Eastern division:		
From Granada to Managua	do	1.50
From San Blas to Managua	do	1.20
From Masaya to Managua	do	1.00
From Nindirí to Managua	do	.90
From Campuzano to Managua	do	.80
From El Portillo to Managua	do	.70
From Sabana Grande to Managua	do	.60

REPORT BY CONSUL NEWELL, OF MANAGUA, ON COMMERCE.*

Through the courtesy of an official of Nicaragua, who was specially deputized to examine and report upon the trade condition of the country, the following information been obtained.

The report covers a period extending from July 1, 1890, to June 30, 1892. It shows the ports via which goods were imported and exported.

IMPORTS.

Table showing the value of imports during 1890–'91 and 1891-'92.

Whence imported.	1890–'91.	1891-'92.
VIA SAN JUAN DEL SUR.	*Dollars.*	*Dollars.*
United States	48, 989. 45	81, 273. 45
England	54, 260. 65	21, 461. 78
France	9, 750. 81	14, 956. 80
Germany	15, 115. 19	15, 554. 59
Italy	185. 00	252. 00
Ecuador	2, 747. 00	.....
Chile	45. 00	.....
Mexico	110. 00	.....
Colombia	3, 868. 00	352. 60
Costa Rica	5, 051. 04	623. 59
Guatemala	250. 00	58. 00
Salvador	9, 277. 00	3, 700. 29
Spain	.....	586. 60
Total	149, 649. 14	138, 820. 00
VIA CABO GRACIAS Á DIOS.		
United States	76, 069. 40	.....
England	19, 704. 25	.....
Germany	597. 76	.....
Austria	201. 50	.....
British Honduras	2, 164. 07	.....
Total	98, 736. 98	113, 796. 93
VIA GREY TOWN.		
United States	240, 385. 93	.....
England	54, 301. 08	.....
France	19, 268. 64	.....
Germany	24, 258. 94	.....
Jamaica	11, 011. 36	.....
Colombia	6, 684. 21	.....
British Guiana	756. 74	.....

* Reports from the consuls of the United States, No. 150, March, 1893, p. 476.

IMPORTS—continued.

Table showing the value of imports during 1890–'91 and 1891–'92—Continued.

Whence imported.	1890–'91.	1891–'92.
VIA GREY TOWN—continued.	*Dollars.*	*Dollars.*
Ecuador	2,023.60	.....
Italy	669.20	.....
Netherlands	2,312.94	.....
Other countries	30,439.01	.....
Total	392,111.65	373,703.94
VIA CORINTO.		
France	356,896.07	998,144.43
England	556,992.42	2,132,601.38
Germany	327,928.47	1,042,055.43
United States	655,636.56	1,497,650.95
Italy	2,751.38	12,245.74
Spain	1,235.25	31,465.06
Ecuador	1,960.02	30,819.28
Colombia	1,787.97	43,568.22
Salvador	8,043.68	150,314.77
Guatemala	739.00	23,709.73
Costa Rica	5,634.20	41,418.98
Cuba	.....	1,047.10
Mexico	.....	1,199.10
Honduras	.....	70.00
Argentine Republic	.....	495.36
Total	1,920,605.02	6,006,805.53

EXPORTS.

Table showing the quantity of exports during 1890–'91 and 1891–'92.

Articles, and whither exported.	1890–'91.	1891–'92.
FROM CORINTO.		
To the United States:	*Dollars.*	*Dollars.*
Coffee ..... pounds..	1,190,834	718,619
Mora ..... do....	672,000	.....
Oxhides ..... do....	153,458	159,010
Deerskins ..... do....	65,131	143,353
Rubber ..... do....	61,502	55,251
FROM SAN JUAN DEL SUR.		
To the United States:		
Coffee ..... pounds..	40,151	.....
Rubber ..... do....	6,069	169
Oxhides ..... do....	9,511	1,943
Deerskins ..... do....	6,501	7,363

EXPORTS—continued.

Table showing the quantity of exports during 1890–'91 and 1891–'92—Continued.

Articles, and whither exported.	1890–'91.	1891–'92.
FROM SAN JUAN DEL SUR—continued.	*Dollars.*	*Dollars.*
To the United States—Continued.		
Brazil wood ..... quintals..	4,378	.....
Cedar ..... feet..	4,060	.....
Rosewood ..... quintals..	1,195	.....
Cacao ..... pounds..	90	169
Mahogany ..... feet..	14,543	9,700
Do ..... tons..	.....	22
To Germany:		
Coffee ..... pounds..	100,385	.....
Oxhides ..... do....	777	.....
Deerskins ..... do....	845	.....
Rubber ..... do....	1,350	.....
Anil ..... do....	2,531	2,486
To England:		
Oxhides ..... do....	747	.....
Deerskins ..... do....	1,200	.....
Rubber ..... do ...	456	780
Mora ..... tons..	6	.....
Anil ..... pounds..	3,968	6,061
Coffee ..... do....	169,795	23,120
To France:		
Anil ..... do....	732	5,006
Deerskins ..... do....	250	.....
Oxhides ..... do....	1,617	.....
Rubber ..... do....	709	.....
Coffee ..... do....	2,032	.....
Rosewood ..... quintals..	510	.....
To Salvador:		
Cheese ..... pounds..	53,607	70,448
Queso mantequilla ..... do....	.....	186
Butter ..... do....	.....	890
To Guatemala:		
Cheese ..... do....	3,220	.....
Hilo morado ..... do....	203	334
Zuelos ..... do....	.....	56
To Costa Rica:		
Cheese ..... do....	30,399	.....
Starch ..... do....	49,141	.....
Butter ..... do....	.....	220
Rice ..... do....	.....	3,800
Tobacco ..... do....	.....	23,480
Miscellaneous articles ..... do....	49,141	90
FROM CABO GRACIOS Á DIOS.		
To the United States:		
Rubber ..... pounds..	148,554	171,155
To countries other than the United States:		
Oxhides ..... do....	5,619	13,218
Deerskins ..... do....	568	1,313

EXPORTS—continued.

Table showing the quantity of exports during 1890–'91 and 1891–'92—Continued.

Articles, and whither exported.	1890–'91.	1891–'92.
FROM CABO GRACIOS Á DIOS—continued.		
	Dollars.	*Dollars.*
To countries other than the United States—Continued.		
Tuna.....pounds..	5,460	.....
Rubber.....do....	.....	1,088
FROM GREY TOWN.		
To the United States:		
Coffee.....pounds..	1,775,319	1,547,569
Rubber.....do....	292,965	300,520
Oxhides.....do....	276,092	283,101
Deerskins.....do....	82,059	101,084
Anil.....do....	11,473	5,312
Cocoanuts.....number..	.....	48,624
Feathers.....pounds..	.....	4
Gold.....ounces..	8,832	7,260
Silver.....do ...	49	.....
To England:		
Coffee.....pounds..	161,078	214,419
Rubber.....do....	10,504	5,515
Anil.....do....	9,924	.....
Gold.....ounces..	4,348	5,071
To Germany:		
Coffee.....pounds..	165,934	155,157
Oxhides.....do....	1,721	9,013
Gold.....ounces..	24	.....
Deerskins.....pounds..	.....	2,602
To France:		
Coffee.....do ...	102,941	17,060
Anil.....do....	5,312	.....
Rubber.....do....	460	2,760
Deerskins.....do....	500	.....
Oxhides.....do....	1,831	.....
Cocoanuts.....number..	9,024	.....
Gold.....ounces..	168	743
FROM BLUEFIELDS.*		
To the United States:		
Rubber.....pounds..	.....	184,335
Cocoanuts.....number..	.....	108,640
Bananas.....bunches..	.....	729,000
Oxhides.....pounds..	.....	97
Mahogany.....pieces..	.....	340
Gold.....value..	.....	32,273

* From April 1 to September 30, 1892.

EXPORTS—continued.

Table showing the value of exports during 1890–'91 and 1891–'92.

Whither exported.	1890–'91.	1891–'92.
To the United States:	*Dollars.*	*Dollars.*
From Corinto	182, 722	60, 051
From San Juan del Sur	13, 996	7, 476
From Cabo Gracios á Dios	74, 293	85, 768
From Grey Town	551, 345	593, 107
From Bluefields*	.....	519, 234
To Germany:		
From San Juan del Sur	18, 633	2, 486
From Grey Town	25, 628	25, 106
To England:		
From San Juan del Sur	30, 215	19, 669
From Grey Town	126, 137	126, 293
To France:		
From San Juan del Sur	2, 086	5, 006
From Grey Town	26, 661	17, 309
To Spanish America, from San Juan del Sur	24, 521	22, 046
To countries other than the United States, from Cabo Gracios á Dios	1, 832	2, 723

*From April 1 to September 30, 1892.

There were exported from Grey Town also to Italy and Colombia in 1892 goods to the value of $2,336.

WILLIAM NEWELL.
Consul.

Chapter XII.

POSTAL AND TELEGRAPH SERVICE.

Nicaragua is a member of the Universal Postal Union. The mail service between the Republic and the United States is as follows:

TO SAN JUAN DEL SUR AND CORINTO.

From New York, by Pacific Mail steamers, via Colon, 1st, 10th, and 20th of each month.

From San Francisco, by Pacific Mail steamers, 3d, 13th, and 23d of each month.

TO SAN JUAN DEL NORTE (GREYTOWN).

From New York, by Pacific Mail steamers, via Colon, 1st, 10th, and 20th of each month. Honduras and Central American line, twice a month

TO BLUEFIELDS.

From New Orleans, by Morgan line, every week; by Bluefields Banana Company's steamers, twice a month.

RATES OF POSTAGE TO AND FROM NICARAGUA.

Letters.—Five cents in United States and 10 centavos in Nicaragua for each half ounce or fraction thereof.

Postal cards.—Two cents in United States and 3 centavos in Nicaragua, each.

Newspapers.—One cent in United States and 2 centavos in Nicaragua per 2 ounces.

Registration fee.—Ten cents in either country, but Nicaragua charges 5 cents for returned receipt.

Poste Restante letters.—The length of time for retaining in the offices of destination of unclaimed correspondence addressed "Poste restante" is six months in the office of destination and six months longer in the dead letter office of the central administration.

The postal service in Nicaragua is in excellent condition and the business transacted is rapidly increasing. A money-order system is in operation in all the principal towns of the Republic.

The postal receipts as stated in the latest official report, which is issued biennially, were:

For year ending—	
June 30, 1889	$24,275.74
June 30, 1890	35,774.73

During the two years included in the biennial report referred to, 2,237,859 pieces of mail matter were handled.

TELEGRAPH.

The total length of telegraph lines in Nicaragua at date of the latest report was 1,549 miles, and of telephone 61 miles, as follows:

	Miles.
National lines (73 offices)	1,454
Nicaragua Canal Company (7 offices)	95
	1,549
National telephone	10
Private telephone	51
	61

During the two years embraced in the latest official report, thirteen new offices were opened and 250 miles of new lines constructed. The business done in the two years was as follows:

	Value.
Private messages, 215,413	$63,773.30
Official messages, 190,034	70,074.80

At San Juan del Sur, on the Pacific coast, connection is made with the submarine cable, by which dispatches can be sent from any port of Nicaragua to any telegraph office in the world. The rates charged for messages from New York via Galveston are:

To San Juan del Sur	per word..	$0.97
To all other offices in Nicaragua	do....	1.02

Number of cable messages transmitted in the two years, 11,037.

Chapter XIII.

IMMIGRATION AND COLONIZATION.

The laws of Nicaragua in regard to immigration and colonization are very liberal. Foreigners can acquire real estate and dispose of it as freely as the Nicaraguan citizens. The provisions of the naturalization laws are also simple and liberal. Immigration has not as yet been carried on to such an extent as the Government and the people of the Republic could wish; but no efforts are omitted to encourage it and push it rapidly to success. The Government encourages it by all possible means, and immigrants are sure to find in Nicaragua the most friendly welcome on the part of both the authorities and the people. At present there are no more than one thousand foreigners of different nationalities in the whole Nicaraguan territory. Out of this number five hundred have settled in the principal cities and are engaged in industrial and professional business. The balance are to be found on the eastern coast, where they, as a general rule, have become as attached to the country as if they were native Nicaraguans.

The following is the text of the principal laws of Nicaragua, having a bearing on the subject, with which the Bureau of American Republics has had any opportunity to become acquainted:

LAW ON THE ACQUISITION BY ALIENS OF REAL ESTATE IN THE REPUBLIC OF NICARAGUA.

The President of the Republic to the inhabitants of the same:

Whereas, some difficulties may be encountered in the carrying into effect of the provisions of the decree of March 30, of the present year, concerning the acquisition of real estate by certain foreigners.

I do, therefore, decree:

ARTICLE 1. All foreigners shall have the power, without losing thereby their own nationality, to acquire public unoccupied lands on the same terms and conditions as required by law from the citizens of Nicaragua.

ART. 2. The decree of March 30, of the present year, and all other provisions heretofore enacted in regard to public unoccupied lands, which may in any way oppose the present decree, are hereby repealed.

P. JOAQUIN CHAMORRO.

MANAGUA, *May 8, 1875.*

LAND AND COLONIZATION LAW.

Decreed by the Senate and the Chamber of Representatives of the Republic of Nicaragua:

ARTICLE 1. The Executive shall have authority to give to each family of immigrants, coming from the United States, or of any other nationality whatsoever, with the purpose of settling in the Republic, and becoming naturalized, a tract of public unoccupied lands not exceeding 120 manzanas; the said tract to be more or less extensive, within said limits, according to the number of persons composing the family. Single persons shall be allowed not more than 60 manzanas each.

ART. 2. The immigrants herein referred to shall enjoy the same rights and privileges as native citizens in regard to commons and common lands. They shall be exempted, also, for the period of 10 years from municipal charges and from military service, unless such service is required for the preservation of the liberty and sovereignty of the Republic.

ART. 3. The lands which shall be granted under the present law shall not be allowed to be sold, unless at least one-half of the area thereof be already under cultivation, and the grantee has become naturalized in due form of law.

ART. 4. The Executive shall have also the power to grant similar concessions of lands to foreign immigrants, coming to Nicaragua, and who desire to preserve their respective citizenship; but these concessions shall not transfer to these immigrants the right of ownership of the land, but shall place them in the position of mere tenants or beneficiaries. The same shall be the case with those immigrants who come to the Republic with the purpose of becoming naturalized, but do not carry their intentions into effect within the period established by law. This right shall last for only 10 years, and shall not be transmissible to third parties, except by inheritance, unless at least half of the ground granted has been placed under cultivation. At the expiration of the 10 years the right shall cease, whether the land be in the possession of the immigrant him-

self or of a third person. The ten years shall be counted from the date in which the tract of land is delivered to the grantee.

ART. 5. No immigrant shall be entitled to the privileges of the present law who does not come provided with a passport issued in his favor by a Nicaragua Minister or Consul, residing in the country from which he comes, which passport shall be issued according to the instruction already given or hereafter to be given by the Government.

NATURALIZATION LAW.

The President of the Republic to the inhabitants of the same:

Know ye that the Congress has enacted the following:

Decreed by the Senate and Chamber of Deputies of the Republic of Nicaragua:

ARTICLE 1. Nicaraguan citizenship may henceforth be acquired by foreigners, in addition to the regular method by which Congress is authorized to grant it under Section 9, of Article 41, of the Constitution, in the following ways:

(1) If the applicant is a Central American, upon proof of his residence for one year within the Republic.

(2) If the applicant proceeds from any other Spanish-American Republic, upon proof of the same residence for two years; and if he is a foreigner of any other kind, four years' residence shall be required.

ART. 2. It will be sufficient for the Central Americans, after their one year's residence has been completed, to state their desire to become naturalized in the Republic; but all other Spanish Americans shall be bound to make a declaration of their intention to become such citizens of Nicaragua. All other foreigners shall make this declaration one year before.

ART. 3. Such Central Americans, Spanish Americans, and all other foreigners who have resided in the Republic before the promulgation of the present law, the length of time required in the preceding article shall only be required to declare their intention to become naturalized before the authority designated in the next following article.

ART 4. The declaration of the purpose to settle in the Republic and become invested with all the rights of a citizen of Nicaragua shall be made to the city corporation, or to the local authority of the place in which the applicant wishes to be domiciled.

ART. 5. The city corporation, or local authority, as the case may be, shall enter the application on the journal or book in which its respective proceedings are recorded, whereupon a proper certificate thereof shall be furnished the applicant, and a notice in writing shall be also given to the prefect of the de-

partment. At the expiration of the time required, upon proper evidence of the fact of the residence, a certificate shall be issued in favor of the applicant, which shall be full evidence of his being a naturalized citizen of Nicaragua.

The naturalization by act of Congress to which article 1 of the naturalization law refers has been frequently bestowed. The Nicaraguan Congress has shown no lack of liberality in this respect.

Señor Gamez states, upon authority of law (law of March 10, 1865), that immigrants from the United States of America domiciled in Nicaragua, even if retaining their American citizenship, are entitled to concessions of land, not exceeding 60 acres per family, and that they can hold and cultivate said lands as if they were their property during the whole time of their residence in Nicaragua. But if they declare their intention to become naturalized, and in due time acquire the Nicaraguan citizenship, then the lands which had been granted to them under the above provision shall become theirs in fee simple.

Agriculturists of whatever nationality, who may be willing to undertake the cultivation of coffee, on a larger scale than 5,000 trees, in the departments of Nueva Segovia, Matagalpa, or Chontales, will receive from the Government a premium of 5 cents per tree. This privilege will cease in the year 1897. (Laws of March 14, 1879, and April 8, 1889.)

Those who may engage in the cultivation of cacao, in larger number than 3,000 trees, will receive from the Government a premium of 21 cents on each tree over four years old. This privilege will cease in 1901. (Law of December 15, 1871.)

Those who may engage in the cvltivation of the India-rubber tree are granted a premium of 10 cents per tree. This privilege will cease in 1897.

Those who may engage in the cultivation of the *cabuya* (Agave americana) are granted a premium of one-half cent per plant. This privilege expires in 1894. (Law of March 16, 1889.)

The cultivators of *pita* (Bromelia) and of *cabuya* are granted

an additional premium of $1 on each 100 pounds of fiber which they may obtain. They are also entitled to $3 for each 100 pounds of fiber exported by them. Machinery and implements of all kinds to be used for the disintegration of these two plants and the proper preparation of the fiber thereof, are admitted free, and are exempted also from taxes and local charges. The expenses of transportation of said machinery and implements are paid by the Government. (Law of March 13, 1883.)

CATHEDRAL AT LEON.

Chapter XIV.

HISTORICAL AND BIBLIOGRAPHICAL NOTES.

The history of Nicaragua may be divided naturally into three different periods, namely:

1. The Colonial period, from the discovery (1502) to the proclamation of independence from Spain and the formation of the Central American Confederation (1821).

2. The Federal period, from 1821 to 1848, in which year the Central American Confederation ceased to exist.

3. The period of the Republic, from 1848 to the present time.

Colonial Period.—The most prominent figure in the subjugation of the territory called Nicaragua was Gil Gonzalez de Avila, who found the country under the rule of a cacique, named Nicarao. The latter's capital was situated on the shore of the great lake, then called Cocibolca, near the site of the present city of Rivas. The Spaniards named this lake Nicarao-agua, or water of Nicarao. The name Nicaragua was thus created, and it has since been bestowed on the whole Republic.

The history of the long Spanish rule in Nicaragua is more or or less the same as in all the other countries in America which belonged to Spain, and need not be repeated here.

Federal Period.—On the 15th of September, 1821, Guatemala, to which Nicaragua had been attached as a province, proclaimed its independence from Spain. This movement was followed by Nicaragua and the other provinces, and the Central American Confederation was formed. But this federation did not live long.

Nicaragua and Honduras withdrew from the Union and proclaimed themselves "free and sovereign states," and when Gen. Morazon, the great advocate of the federation, died in 1840, the cause of the Union was lost. Though efforts have been made from time to time to reunite the Central American Republics, all have failed, and Nicaragua has continued to control its own government.

Period of the Republic.—This period witnessed the British invasion of 1847, the "filibustering" expedition of William Walker in 1855, the settlement of the question of limits with Costa Rica by the treaty of April 15, 1858, and the award of President Cleveland who declared it valid, and the initiation of the great work of the interoceanic canal.

In spite of occasional political troubles, the progress of Nicaragua has been uninterrupted and rapid. Public attention is absorbed by the important enterprise of the interoceanic canal. The entire civilized world has joined Nicaragua in her expectations in regard to this work, and it is hoped that, through it, she will attain an extraordinary position of prosperity and power, to which she was evidently predestined by nature, as a great highway of nations and a gateway of the world's commerce.

The following list of books on Nicaragua can be consulted with profit by those who may wish to be informed, from reliable sources, in regard to that country:

NICARAGUAN OFFICIAL PUBLICATIONS.

Mensaje que S. E. el Señor General Presidente, Doctor Don Roberto Sacasa dirige al Congreso de la República, January 4, 1893.

Informe presentado al Honorable Señor Ministro de la Gobernación por el Director-General de Correos y Telégrafos. 1889–'90.

Informe de la Comisión Nicaragüense en la Exposición Histórica Americana de Madrid. 1893.

Memoria de Relaciones Exteriores. República de Nicaragua. 1889–'90.

Apéndice á la Memoria de Relaciones Exteriores é Instrucción Pública. República de Nicaragua. 1891.

Breves Noticias de la Republica de Nicaragua mandadas Publicar de Orden del Ministro de Relaciones Exteriores. 1892.

UNITED STATES OFFICIAL PUBLICATIONS.

1. Reports on the commerce and inventions of Nicaragua, and on the revenue of the same Republic. In Nos. 53, 54, and 64 of the "Reports of the Consuls of the United States."
2. Report on the trade of the district of Greytown in 1889–'90. In "Diplomatic and Consular Reports," 1891. No. 913.
3. Report of the United States Nicaraguan survey party, 1885, by Civil Engineer A. G. Menocal, U. S. Navy.

BRITISH OFFICIAL PUBLICATIONS.

1. Report by Mr. Edwin Corbett, British Chargé d'Affaires, May 29, 1869. In "Reports by Her Majesty's Secretaries of Embassy and Legation." No. IV. 1869. London, 1869.
2. Report by Consul Gollan on the commerce of Greytown and the construction of an interoceanic canal through Nicaragua. January, 1876. In "Reports of Her Majesty's Consuls." No. 8. 1876.
3. Report by Consul Gollan on the trade and commerce of Nicaragua. January, 1877. In "Reports of Her Majesty's Consuls." No. 8. 1887.
4. Reports by Consul Jessel on the commerce of Nicaragua, and by Consul Bingham on the commerce of Greytown. 1882.
5. Other reports of British Consuls in 1883, 1884, 1885.

UNOFFICIAL PUBLICATIONS.

Belly, N. Percement de l'isthme de Panama par le canal de Nicaragua. Paris, 1885.

Belt, Thomas. The Naturalist in Nicaragua. London, 1873.

Bülow, A. von. Der Freistaat Nicaragua in Mittelamerika. Berlin, 1849.

Keller, J. Le canal de Nicaragua. Paris, 1859.

Levy, P. Notas geográficas y económicas sobre la República de Nicaragua. Paris, 1873.

Marr, Wilhelm. Reise nach Centralamerica. Hamburg, 1863.

Scherjer, Karl Ritter von. Wanderungen durch die mittelamerikanischen Freistaaten. Braunschweigh, 1857.

Squier, E. G. Sketches of travel in Nicaragua. New York, 1851.

Squier, E. G. Nicaragua, its people, scenery, monuments, and the proposed interoceanic canal. London, 1852.

Whetham, J. W. Bodhain. Across Central America. London, 1877.
Plata ú Oro. Managua, 1892.
Algunas palabras sobre la cuestión monetaria. Managua, 1892.
Catecismo de historia patria de la República de Nicaragua, por José D. Gamez. Managua, 1889.
Nicaragua Canal. Report on prospective tonnage of traffic by the Nicaragua Canal Construction Company. New York, 1890.
Notes on the Nicaragua Ship Canal, by W. I. Chambers.
La Costa de Mosquitos; por J. B. Calvo. Guatemala, 1890.

Appendix A.

IMPORT DUTIES OF NICARAGUA.

DERECHOS DE IMPORTACION EN NICARAGUA.

In the preparation of these tables the official classification of the Nicaraguan tariff has been followed, which differs materially from that of the United States.

The valuations expressed in English are calculated on the basis of the official valuation of foreign coins issued by the Director of the Mint of the United States, July 1, 1891, in which the peso is valued 73.6 cents United States currency.

Duties are assessed on gross weight, no deduction being made for the package.

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Cotton and manufactures of cotton.	*Dollars.*	**Algodones.**	*Pesos.*
Trimmings for dresses	0.368	Adornos para vestidos	0.50
Damask, tablecloths, napkins, and any other damask textures.	.110	Alemanisco, damasco, manteles, servilletas y cualquier otro tejido adamascado	.15
Carpets and mats, of shag	.147	Alfombras afelpadas	.20
Cotton, raw, in the seed	.007	Algodón en rama con pepita	.01
Cotton, without seed	.022	Algodón sin pepita	.03
Antimacassars and all kinds of textures of net or for crocheting, not otherwise specified	.368	Antimacasares y todo tejido de punto de red ó al crochet, no especificado	.50
Barége or balzarine, dress goods, imitation of wool, plain or with stripes, squares, or flowers of cotton	.221	Bareje ó balsarina, género para trajes, imitación de lana, llanos ó con listas, cuadros ó flores	.30
Barége or balzarine, dress goods, imitation of wool, with stripes, squares, or flowers of wool	.294	Bareje ó balsarina, género para trajes, imitación de lana, con listas, cuadros ó flores de lana	.40
Barége or balzarine, dress goods, imitation of wool, with stripes, squares, or flowers of silk	.442	Bareje ó balsarina, género para trajes, imitación de lana, con listas, cuadros ó flores de seda	.60
Bandana, plain or figured and of any color	.147	Bandana lisa ó labrada de cualquier color	.20
Irish linen, jean, madapolam, imperial, etc., and any other similar bleached texture, under whatever name	.088	Bogotana, estribilla, irlanda, coquillo, madapolan, setín, imperial y cualquier otro tejido blanqueado semejante, con cualquier otro nombre	.12

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Cotton and manufactures of cotton—Continued.		**Algodones**—Continúa.	
	Dollars.		*Pesos.*
Cambric muslin and long lawn, printed, worked, or figured....	.221	Cambray y estopillas estampadas, trabajadas ó labradas....	.30
Cambric muslin, gauze or muslin or any other similar texture with stripes, squares, or flowers of wool.....	.255	Cambray, gasa ó muselina ú otro tejido semejante con listas, cuadros ó flores de lana.....	.36
Shirts, nightshirts, shirt fronts, collars, cuffs, trousers, coats, jackets, drawers, and similar articles, white or colored, plain or worked, for men or women..	.184	Camisas, camisones, pecheras, cuellos, puños, pantalones, sacos, chaquetas, calzoncillos y cualquier otra obra blanca ó de color, lisa ó librada, para hombre ó mujer.....	.25
Shirts, with linen collars, cuffs, and bosoms.....	.258	Camisas con cuello, puños y pechera de lino.....	.35
Undershirts and drawers, of stockinet.....	.162	Camisolas y calzoncillos de punto de medias.....	.22
Canvas for tapestry.....	.096	Cañamazo.....	.13
Table covers.....	.11	Carpetas.....	.15
Corduroys, of all kinds, for men's wear.....	.132	Casinetes, casicuero ó terciopelo de algodón, para vestido de hombre.....	.18
Tapes or ferret ribbons, webbing for boots, plain, fancy, white or colored.....	.132	Cintas de reata ó hiladillo, cintas para botín lisas ó labradas, blancas ó de color.....	.18
Velveteen ribbons of all kinds...	.368	Cintas de pana ó terciopelo de algodón y cualquiera otras semejantes.....	.50
Counterpanes, plain or damasked, calendered or worked, with or without fringe, and any other quilted texture.....	.11	Colchas lisas ó adamascadas, prensadas ó labradas, con fleco ó sin él y cualquier otro tejido acolchado.....	.15
Cords, tassels, and fringes, for curtains and other similar uses.	.221	Cordones, borlas y flecos para cortinas y otros usos semejantes.....	.30
Corsets, finished or not.....	.28	Corsés hechos ó en cortes.....	.38
Lace curtains and bed covers	.368	Cortinas y sobrecamas de punto ó tejido de encajes.....	.50
Curtains and bed covers of damask or any other similar texture.	.147	Cortinas y sobrecamas de damasco ú otro tejido semejante.	.20
White crea or stuffs for sheeting, etc.....	.096	Crea blanca ó tela para sábanas ó manta de la China.....	.13
Creas, etc.....	.132	Creas, ó enagüillas.....	.18
Drills, satinets, imitation cassimeres, etc., for men.....	.11	Driles, rasetes, panillas, imitación casimires, etc., para hombres.....	.15
Embroidered skirts or petticoats .	.221	Enaguas ó fustanes bordados...	.30
Laces.....	.442	Encajes.....	.60
Socks for men and children.....	.184	Escarpines, ó calcetines para hombres ó niños.....	.25
Socks, with woolen or silken clocks or embroidered for men and children.....	.221	Escarpines ó calcetines con listas ó adornos de lana ó seda para hombres ó niños.....	.30

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Cotton and manufactures of cotton—Continued.	*Dollars.*	**Algodones**—Continúa.	*Pesos.*
Waistbands, braces, belts, and garters	.221	Fajas, tirantes y ligas	.30
Fringes for trimming dresses	,368	Flecos para adornos de vestidos.	.50
Blankets, covers, and ponchos	.088	Frazadas ó cobertores y ponchos.	.12
Gambroon, Italian cloth, and ladies' cloth	.257	Gambrón, paño de Italia y paño de damas	.35
Gauzes and muslins, for bed curtains or curtains and any other similar texture	.184	Gasas y muselinas para pabellones ó cortinas y cualquier otro tejido semejante	.25
Gauzes, muslins, printed, worked, or figured	.199	Gasas ó muselinas estampadas, trabajadas ó labradas	.27
White gauzes, plain or embroidered	.162	Gasa lisa ó labrada blanca	.22
Batistes of low quality, plain or worked	.132	Gasa-zaraza de tejido liso ó labrado	.18
Fancy stuffs not otherwise specified, plain or worked, with stripes, squares, or flowers of wool for ladies' dresses	.294	Género de fantasía, liso, ó labrado, con listas, cuadros ó flores de lana para vestidos de señora, no especificados	.40
Fancy stuffs, with stripes, squares, or flowers of silk	.442	Género de fantasía con listas, cuadros ó flores de seda	.60
Children's caps, plain or with cotton trimmings	.294	Gorros para niños, sin adornar ó adornados con algodón	.40
Children's caps, with woolen or silk trimmings	.442	Gorros para niños adornados con lana ó seda	.60
Gloves and caps, plain or embroidered	.368	Guantes y birretes, lisos ó bordados	.50
Ginghams of all kinds	.132	Guinga ó guingam	.18
Hammocks	.11	Hamacas	.15
Sewing thread for hand or machine, white or colored, on wooden or metal spools	.10	Hilo para coser á mano ó en máquina, blanco ó de color, en garruchas de madera ó metal	.14
Sewing, embroidering, or knitting thread, in balls or hanks	.118	Hilo para coser, bordar ó tejer á mano, en ovillos ó madejas	.16
Druggets and floor coverings of all kinds, without pile	.074	Jergón, género para pisos de toda clase	.10
Lawns or fine cambric, plain or worked	.199	Linón ú olán clarín, liso ó labrado	.27
Canvas for sails, bed sacking, or other uses	.088	Lona para velas de embarcaciones, forros de catres y otros usos	.12
Yarn, raw or bleached	.044	Madejón crudo ó blanqueado	.06
Yarn, colored	.066	Madejón de cualquier otro color.	.09
Domestics, unbleached, of all kinds and widths	.052	Manta lisa cruda, de toda clase y ancho	.07
Domestics, with colored stripes and squares	.074	Manta á listas y cuadros de color.	.10
Drills, unbleached or bleached, bedticking, drills, blue, etc., or striped in colors	.066	Manta-dril cruda ó blanqueada, cotín, manta-dril azul, café ó á listas de color	.09

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Cotton and manufactures of cotton—Continued.	*Dollars.*	**Algodones**—Continúa.	*Pesos.*
Mantillas, shawls, and similar articles of lace	.368	Mantillas, pañolones y artículos semejantes de punto	.50
Wicks, for smokers and lamps	.132	Mechas para fumadores y para alumbrado	.18
Stockings for men, women, or children	.184	Medias para hombres, mujeres ó niños	.25
Stockings with any kind of woolen or silken embroidery, for men, women, or children	.221	Medias con listas ó adornos de lana ó seda para hombres, mujeres ó niños	.30
Small wares, not specified	.368	Obras de pasamanería no especificadas	.50
Bishop's or Victoria lawn, or any other similar cloth, plain or worked	.147	Olán de obispo ó Victoria, ó cualquier otro tejido semejante, liso ó labrado	.20
Candle wick	.044	Pábilo	.06
Corduroy or velveteen, plain or worked, and any similar article	.258	Pana ó terciopelo de algodón, liso ó labrado, y cualquier otro artículo semejante	.35
Towels of all kinds	.110	Paños de mano ó tohallas	.15
Handkerchiefs and shawls, of muslin, satinet, batiste, chintz, jean, or any other texture, plain, twilled, or embroidered	.184	Pañuelos y pañolones de muselina, rasete, olán, zaraza, coquillo y de cualquiera otra calidad, lisos, asargados ó bordados	.25
Percales, plain or worked, and piqué, for ladies' wear	.132	Percalas lisas ó labradas y piqué para mujer	.18
Piqué for vests	.162	Piqué para chalecos	.22
Poplin or any similar texture, with stripes, squares, or flowers of wool	.294	Poplín ú otro tejido semejante con listas, cuadros ó flores de lana	.40
Poplin, etc., with stripes, squares or flowers of silk	.442	Poplín ú otro tejido semejante, con listas, cuadros ó flores de seda	.60
Lace nets for bed curtains and curtains	.368	Punto para pabellón y cortinas, tejido de encajes	.50
Bobinet, tulle, crape, and similar textures, plain or worked	.368	Punto, tul, crespón y tejidos semejantes, lisos ó labrados	.50
Bobinet, etc., with gold or silver embroidery	.442	Punto, tul, crespón y tejidos semejantes escarchados	.60
Sateen, satinet, or any similar texture for ladies' wear	.184	Raso, rasete y cualquier otro tejido semejante para mujer	.25
Rebozos (Central American shawls)	.221	Rebozos	.30
Rebozos, mixed with silk	.515	Rebozos mezclados con seda	.70
Silesias, lustring, nankeen, or any other similar cloth for dress lining	.132	Sándalo, lustrina, coletilla ó cualquiera otra tela para forro de vestidos	.18
Sacks and bags	.074	Sacos ó costales	.10
Traveling bags, saddlebags, and and other similar articles	.11	Sacos de noche, bolsas, alforjas y cualquier otro artículo semejantes	.15

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Cotton and manufactures of cotton—Continued.	*Dollars.*	**Algodones**—Continúa,	*Pesos.*
Materials for hammocks, carriage curtains, mattresses, and other uses	.088	Tela ó genero para hamacas, cortinas de carros, colchones y otros usos	.12
Satin stripe batistes, printed	.162	Tela real estampada para mujer.	.22
Embroideries, edgings, and insertions	.736	Tiras y metidos bordados	1.00
Dresses made up, or in lengths, of lawn, muslin, tulle, cambric, net, or like textures, embroidered	.442	Trajes hechos ó en cortes, de linón, muselina, tul, cambray, punto ó tejidos semejantes bordados	.60
Dresses, etc., of cambric, muslin, percales, satinet, or any other similar texture, trimmed	.368	Trajes hechos ó en cortes, de cambray, muselina, percala, rasete y tejidos semejantes, adornados	.50
Dresses in lengths, plain or without trimmings. (*See* cloth of which they may be made.)		Trajes en cortes, lisos ó sin adornos. (*Véase* el género de que fueren.)	
Braids of all kinds	.294	Trencillas de toda clase	.40
Baptismal dresses	.368	Vestidos bautismales	.50
Chintzes, plain or figured	.132	Zarazas, lisas ó labradas	.18
Wool and woolen goods.		**Lanas.**	
Ladies' wraps	.589	Abrigos para señoras	.80
Ladies' wraps trimmed with silk	.736	Abrigos para señoras con adornos de seda	1.00
Carpets, rugs, and similar articles	.184	Alfombras, tapetes y artículos semejantes	.25
Alpacas and other similar textures, plain or worked	.294	Alpaca y cualquier otro tejido semejante, liso ó labrado	.40
Antimacassars	.442	Antimacasares	.60
Mats, for lamps and other uses	.294	Asientos para lámparas y otros usos	.40
Sashes	.368	Bandas	.50
Barége or balzarine, plain or worked, for ladies' wear	.368	Bareje ó balsarina, lisa ó labrada, para vestidos de mujer	.50
Barége with stripes, squares, or flowers of silk	.552	Bareje ó balsarina para id., con listas, cuadros ó flores de seda.	.75
Baize, flannel, or any other similar texture	.368	Bayetas, franela y cualquier otro tejido semejante	.50
Mufflers, comforters, and other similar articles	.368	Bufandas y artículos semejantes.	.50
Brocades	.552	Brocados	.75
Socks, stockings, undervests, drawers, and other articles of similar webbing	.368	Calcetines ó escarpines, medias, camisolas, calzoncillos y cualesquiera otros artículos tejido de medias	.50
Shirts of all kinds, plain, figured, or embroidered	.331	Camisas de cualquier tejido, lisas, labradas ó bordadas	.45
Table covers	.552	Carpetas	.75
Cassimeres, broadcloths, venetians, and other similar textures	.552	Casimires, paños, satines y cualquier otro tejido semejante	.75

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Wool and woolen goods—Continued.	*Dollars.*	**Lanas**—Continúa.	*Pesos.*
Shawls, capes, cloaks, and similar articles	.589	Chales, pañoletas, mantos ó pañolones y artículos semejantes	.80
Shawls, etc., embroidered with silk or with silk lace or fringe.	.736	Chales, pañoletas, mantos ó pañolones bordados con seda ó con blonda ó fleco de seda	1.00
Blankets, rugs, and ponchos	.132	Chamarras, frazadas, mangas y ponchos	.18
Tapes and ribbons or fringes	.442	Cintas ó franjas	.60
Cords, tassels, fringes and borders for curtains, doors, windows, and similar uses	.368	Cordones, borlas, flácos y blondas para cortinas, puertas, ventanas y usos semejantes	.50
Uppers for slippers, printed or embroidered	.221	Cortes para chinelas estampadas ó bordadas	.30
Cubicas, lastings and similar textures, plain or worked	.331	Cúbicas, duraderas y tejidos semejantes, lisos ó labrados	.45
Damasks	.552	Damascos	.75
Damasks with silk flowers	.883	Damascos con flores de seda	1.20
Laces	.589	Encajes	.80
Waist bands, braces, and garters.	.331	Fajas, tirantes y ligas	.45
Fringes and trimmings for dresses.	.515	Flecos y adornos para vestidos	.70
Gauzes, muslins, and any other similar cloth, plain or worked, for ladies' dresses	.368	Gasas, muselinas y cualquiera otra tela, lisa ó labrada para vestido de mujer	.50
Fancy dress stuffs with silk squares, stripes, or flowers	.552	Género de fantasía, con cuadros, listas ó flores de seda	.75
Gloves and caps, plain or embroidered	.589	Guantes y birretes lisos ó bordados	.80
Sewing and embroidering thread.	.294	Hilo para coser ó bordar	.40
Woolen yarn for weaving	.184	Hilo para tejer (madejón)	.25
Frieze, and similar textures	.257	Jergas y tejidos semejantes	.35
Coarse floor cloths of all kinds	.147	Jergón, género para pisos, de toda clase	.20
Wool, raw	.074	Lana en bruto	.10
Wool in skeins, loose or twisted, for sewing and embroidering	.294	Lana en madejas, suelta ó torcida para coser ó bordar	.40
Saddlecloths	.221	Mantillones	.30
Merinos and cashmeres, and similar textures, plain or worked	.368	Merino, cachemira y tejidos semejantes, lisos ó labrados	.50
Small wares	.589	Obras de pasamanería	.80
Trousers, jackets, coats, and all kinds of men's ready-made clothing	.662	Pantalones, sacos, levitas y toda clase de rope hecha para hombre	.90
Sheepskin rugs, long or short hair.	.294	Pellones o zaleas	.40
Lace, tulle, crape, and similar texture in pieces or made up	.552	Punto, túl, crespón y tejidos semejantes, en piezas ú obras	.75
Serge and similar textures	.368	Sarga y tejidos semejantes	.50
Bed covers	.552	Sobrecamas	.75
Dresses in lengths, or ready-made, or any parts of same, plain or trimmed	.736	Trajes en cortes ó hechos y cualquiera otra pieza lisa ó adornada para vestido de mujer	1.00

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Wool and woolen goods—Continued.	*Dollars.*	**Lanas**—Continúa.	*Pesos.*
Dresses, etc., trimmed with silk.	.883	Trajes en cortes ó hechos y cualquiera otra pieza adornada con seda para vestido de mujer....	1.20
Braids of all kinds.....	.368	Trencillas de toda clase.....	.50
NOTE.—Articles of wool mixed with cotton or linen pay as wool, and articles not specially enumerated of wool mixed with silk pay as silk.		NOTA.—Todo artículo de lana mezclado con algodón ó lino pagará como lana, y los no especificados y mezclados con seda pagarán como seda.	
Hemp and manufactures of hemp.		**Cáñamos.**	
Bagging of all kinds.....	.022	Bramante de toda clase.....	.03
Cordage or rigging.....	.037	Cable ó jarcia.....	.05
Hemp, common, for sewing, loose, in skeins or twisted.....	.074	Cáñamo ordinario suelto, en madejas ó torcido para coser..	.10
Canvas for crewel-work, etc	.096	Cañamazo.....	.13
Drills, raw or bleached.....	.147	Driles crudos ó blanqueados....	.20
Tow or hemp, undressed.....	.015	Estopa ó cáñamo en rama.....	.02
Towels.....	.11	Paños de mano ó tohallas.....	.15
Russia duck, sailcloth or osnaburg.....	.11	Rusia, brín ó crehuela.....	.15
Sacks and bags.....	.014	Sacos ó costales.....	.02
Hemp cloth, such as canvas.....	.088	Tela de cáñamo como lona.....	.12
Linen and linen goods.		**Linos.**	
Damask and other similar textures.....	.147	Alemanisco, damasco y tejidos semejantes.....	.20
Britanny, Irish linen, long lawn, white crea, and similar textures.	.258	Bretaña, irlanda, estopilla, royal, crea blanca y tejidos semejantes.....	.35
Drawers for men.....	.368	Calzoncillos para hombres.....	.50
Shirts and shirt fronts, plain.....	.383	Camisas y pecheras lisas.....	.52
Shirts, etc., embroidered.....	.442	Camisas y pecheras bordadas...	.60
Chemises, drawers, bodices, and any other article, plain or figured, for women's wear.....	.405	Camisones, calzoncillos, sacos y cualquiera otro obra lisa ó labrada para mujer.....	.55
Chemises, etc., embroidered.....	.552	Camisones, calzoncillos, sacos y cualquiera otra obra bordada para mujer.....	.75
Nankeen, etc., hollands and other similar tissues, raw or colored	.221	Cotray, coleta, holanda y tejidos semejantes, crudos ó de color.	.30
Collars and cuffs for men.....	.405	Cuellos y puños para hombres..	.55
Collars, etc., plain, for women...	.405	Cuellos y puños lisos para mujer.	.55
Collars, etc., embroidered, for women.....	.552	Cuellos y puños bordados para idem	.75
Drill, plain or worked.....	.206	Dril militar, liso ó labrado	.28
Skirts and petticoats, plain or worked	.405	Enaguas ó fustanes, lisos ó labrados.....	.55
Skirts, embroidered.....	.552	Enaguas ó fustanes bordados ...	.75

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Linen and manufactures of linen—Continued.	*Dollars.*	**Linos**—Continúa.	*Pesos,*
Laces, fringes, and trimmings of any kind for women	.736	Encajes, blondas y adornos de toda clase para mujer	1.00
Thread on wooden or metal spools.	.110	Hilo en garruchas de madera ó metal	.15
Thread in skeins or hanks, or other forms for sewing or embroidering	.132	Hilo en medejas, ovillo ó en cualquiera otra forma para coser ó bordar	.18
Linen yarn for weaving	.074	Hilo para tejer (madejón)	.10
Canvas and duck	.088	Manta lona	.12
Tablecloths and napkins	.147	Manteles y servilletas	.20
Small wares not otherwise specified	.736	Obras de pasamanería no especificadas	1.00
Linen cambric	.442	Olán batista	.60
Trousers, coats, drawers, and other articles not otherwise specified, for men	.368	Pantalones, sacos, calzoncillos y cualquiera otra obra no especificada, para hombre	.50
Handkerchiefs, shawls, and similar articles, embroidered	.552	Pañuelos, pañoletas y pañolones, bordados	.75
Handkerchiefs, etc., plain	.442	Pañuelos, pañoletas, pañolones y artículos semejantes, lisos	.60
Sheeting	.184	Tela para sábanas	.25
Embroidery, edgings, and insertions	.883	Tiras y metidos bordados	1.20
Dresses, in lengths or made up, or any other article trimmed for women's dresses	.552	Trajes en cortes ó hechos, ó cualquiera otra pieza adornada para vestidos de mujer	.75
Dresses, etc., embroidered, not otherwise specified	.736	Trajes en cortes ó hechos, ó cualquiera otra pieza bordada y no especificada para vestidos de mujer	1.00
NOTE.—Articles of linen mixed with cotton pay duty as linen.		NOTA.—Todo artículo de lino mezclado con algodón se reputará como lino.	
Silk and silk goods.		**Sedas.**	
Trimmings of all kinds, fringes, braids, cords, etc	1.472	Adornos de toda clase, flecos, trencillas, cordones, etc	2.00
Silk alpacas and Chinese silks	1.104	Alpaca de seda ó género chino	1.50
Sashes of Canton crape, net, lace, or any other texture	1.288	Bandas de burato, redecilla, punto ó cualquier otro tejido	1.75
Tassels, guipures, fringes, and cords for curtains and similar uses	1.104	Borlas, blondas, flecos y cordones para cortinas y usos semejantes	1.50
Brocades, plain, worked, or embroidered	1.472	Brocado liso, labrado ó bordado	2.00
Brocades, plain, worked, or embroidered with gold or silver	1.656	Brocado liso, labrado ó bordado con oro ó plata	2.25
Canton crape	1.472	Burato	2.00
Undershirts, stockings, drawers, and socks	1.472	Camisolas, medias, calzoncillos y escarpines	2.00
Table covers, plain, worked, or embroidered	1.472	Carpetas lisas, labradas ó bordadas	2.00

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Silk and silk goods—Continued.		**Sedas**—Continúa.	
	Dollars.		*Pesos.*
Tapes and ribbons of all kinds...	1.288	Cintas ó listones de toda clase...	1.75
Cravats for men or women.....	1.251	Corbatas para hombre ó mujer..	1.70
Damasks and similar textures....	1.472	Damasco y tejidos semejantes..	2.00
Laces.....	1.84	Encajes.....	2.50
Gauze, muslin, lawn, crape, lace, tulle, and similar textures.....	1.325	Gasa, muselina, olán, crespón, punto, tul y tejidos semejantes.	1.80
Children's hoods or caps.....	1.104	Gorros para niños	1.50
Gros, taffeta, serge, satin, and any similar tissues, plain, worked, or embroidered.....	1.472	Gró, tafetán, sarga, raso y cualquier otro tejido semejante, liso, labrado ó bordado	2.00
Gloves and caps.....	2.208	Guantes y birretes	3.00
Garters	.515	Ligas.....	.70
Handkerchiefs, plain, worked, or embroidered.....	1.288	Pañuelos, lisos, labrados ó bordados.....	1.75
Shawls, wraps, and cloaks, plain, worked, or embroidered	1.472	Pañolones, chales, manteletas, lisos, labrados ó bordados ...	2.00
Rebozos (Central American shawl).	1.472	Rebozos	2.00
Rebozos, half cotton and half silk.	.515	Rebozos de media-seda (seda y algodón).....	.70
Coats, jackets, or any other made-up article for men.....	1.472	Sacos ó cualquiera otra obra trabajada para hombre.....	2.00
Floss or twisted silk on bobbins.	.736	Seda floja ó torcida en carreteles.	1.00
Floss, etc., in skeins.....	1.104	Seda floja ó torcida en madejas..	1.50
Velvet, plain or worked.....	1.472	Terciopelo liso ó labrado.....	2.00
Braces and waistbands	1.104	Tirantes y fajas.....	1.50
Ladies' dresses in lengths or made up, or any other article of dress for ladies, plain, worked, or embroidered	1.472	Trajes en cortes ó hechos, y cualquiera otra pieza para vestido de señora, lisos, labrados ó bordados.....	2.00
Sacerdotal robes, or vestments for images, ministers, or servants of the church, as dalmaticas, chasubles, mantles, palls, etc., ornamented or not, with galloon or embroidery.....	1.84	Vestiduros sacerdotales ó vestidos para imágenes, ministros ó sirvientes de iglesia, como dalmáticas, casullas, mantos, palios, etc., estén ó no adornados con galón ó bordaduras ..	2.50
NOTE.—Articles of silk mixed with cotton, wool, or linen pay duty as silk.		NOTA.—Artículos de seda mezclados con algodón, lana ó lino pagarán como seda.	
Metals and manufactures.		**Metales.**	
Steel in bars or plates.....	.014	Acero en barras ó planchas.....	.02
Needles of steel or any other metal, other than gold or silver....	.368	Agujas de acero ó de otro metal, no siendo oro ni plata.....	.50
Packing needles for sewing sacks, etc	.221	Agujas grandes para coser sacos.	.30
Iron or steel wire of any thickness, galvanized or not.....	.029	Alambre de hierro ó acero de cualquier grueso, sea ó no galvanizado.....	.04
Copper wire.....	.037	Alambre de cobre.....	.05
Pins, clasps, eyelets, hooks, hairpins.....	.221	Alfileres, gafetes, ojetes, horquillas y ganchos para el pelo....	.30

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Metals and manufactures—Cont'd.	*Dollars.*	**Metales**—Continúa.	*Pesos.*
Imitation gold and silver jewelry of all kinds	1.84	Alhajas de toda clase, imitación de oro ó plata, como doublé, plaqué ó cualquier otro metal.	2.50
Gold jewelry of all kinds	7.36	Alhajas de oro de toda clase	10.00
Silver jewelry of all kinds	4.416	Alhajas de plata de toda clase	6.00
Gold and silver jewelry set with precious stones	11.04	Alhajas de oro ó plata con piedras preciosas	15.00
Anchors, chains for ships, machinery, wagon tires, nails, screws, rivets, round-headed nails, bolts, balconies, and grates, whether of cast iron or not	.014	Anclas, cadenas para embarcaciones, maquinaria ó carretas, llantas, clavos, remaches, pernos, balcones, y verjas, sean ó no de hierro fundido	.02
Fishhooks	.147	Anzuelos	.20
Chandeliers and candelabra of any kind of metal, with the exception of gold and silver	.074	Arañas y candelabros de cualquier metal, no siendo oro ni plata	.10
Side arms, such as swords, daggers, rapiers, and sabers	.736	Armas blancas, como espadas, dagas, floretes y sables	1.00
Firearms, percussion, as guns in separate or parts or finished	.132	Armas de fuego, de pistón, como escopetas, en piezas ó armadas.	.18
Firearms, such as revolvers or pistols	1.472	Armas de fuego como revólvers ó pistolas	2.00
Firearms, precision (by special permission of the Government).	1.104	Armas de fuego de precisión (con permiso especial del Gobierno).	1.50
Guns for shooting galleries, fire and air, up to 6 millimetres caliber	.552	Armas de salón, de fuego ó aire, calibre hasta de 6 milímetros	.75
Firearms for purposes of war, as rifles, cannons, mitrailleuses, etc. (prohibited).		Armas de fuego para ejército, como rifles, cañones, ametralladoras, etc. (prohibidas).	
Pails, tubs, axles, carriage springs, kitchen utensils, and similar articles	.022	Baldes, bañaderas, ejes, muelles para carruajes, utensilios de cocina de toda clase y artículos semejantes	.03
Bayonets (prohibited).		Bayonetas (prohibidas).	
Iron hinges	.029	Bisagras de hierro	.04
Copper or brass hinges	.044	Bisagras de cobre ó bronce	.06
Brass or copper in bars or sheets.	.037	Bronce ó cobre en láminas ó barras	.05
Brass articles of all kinds not otherwise specified	.096	Bronce en obras de toda clase no especificadas	.13
Cables, iron or steel	.014	Cables de hierro ó acero	.02
Chains for dogs or horses	.022	Cadenas para perros ó caballos	.03
Safes and chests for keeping money or valuables	.022	Cajas ó arcas para guardar dinero ó valores	.03
Padlocks, locks, door knockers, bolts, keys, picklocks, sash bolts, jambs, knobs, and any articles for doors and windows not otherwise specified	.059	Candados, cerraduras, aldabas, cerrojos, llaves, picaportes, pasadores, maniguetas y perillas, y todo artículo para puertas ó ventanas, no especificado	.08
Pitchers and pans of galvanized iron	.059	Cántaros y panas de hierro galvanizado	.04

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Metals and manufactures—Cont'd.	*Dollars.*	**Metales**—Continúa.	*Pesos.*
Imitation gold and silver thread..	.221	Canutillo que no sea de oro ó plata.....	.30
Bells, sheaves, pulleys or blocks, casters for furniture and similar articles	.022	Campanas, roldanas, carrillos ó motones, ruedas para muebles y artículos semejantes.....	.03
Small bells of any metal except gold or silver	.11	Campanillas de cualquier metal, no siendo oro ni plata.....	.15
Caps or cartridges of metal or cardboard, loaded or unloaded, for all kinds of arms.....	.059	Cápsulas ó cartuchos metálicos ó de cartón, cargados ó sin cargar, para toda clase de armas..	.08
Capsules of metal for bottles	.037	Cápsulas de cualquier metal para tapar botellas.....	.05
Harness bells of any metal except gold or silver.....	.11	Cascabeles de cualquier metal, no siendo oro ni plata.....	.15
Sieves, screens, or strainers and articles of steel or iron wire cloth.....	.037	Cedazos, zarandas ó cribas y demás artefactos de tela de acero ó de hierro.....	.05
Copper nails, tacks, and screws, pans, kettles, boilers, and similar articles of copper	.059	Cobre en clavos, tachuelas y tornillos, pailas, calderos, peroles y artículos semejantes	.08
Copper ornaments of any kind not specified	.11	Cobre en obras de adorno de toda clase, no especificadas	.15
Iron stoves.....	.014	Cocinas de hierro.....	.02
Table knives and forks.....	.074	Cubiertos de mesa.....	.10
Spoons and forks of tin plate, zinc, tin, pewter, or any other metal except gold or silver.....	.11	Cucharas y tenedores de hoja lata, zinc, estaño, peltre, etc. no siendo oro ni plata.....	.15
Thimbles of any metal except gold or silver.....	.184	Dedales de cualquier metal, no siendo oro ni plata.....	.25
Steel and tinder boxes of any kind of metal except gold or silver..	.11	Eslabones y yesqueros de cualquier metal, no siendo oro ni plata	.15
Imitation enamel, tinsel, and spangles	.368	Esmalte falso ú oropel y brichos.....	.50
Tin in bars or sheets.....	.022	Estaño en barras ó planchas....	.03
Manufactures of tin of every kind and for all purposes	.074	Estaño en obras de toda clase y para cualquier uso.....	.10
Bits, curbs, muzzles, spurs, stirrups, currycombs, buckles and rings for saddlery, and similar articles of any metal except gold or silver.....	.037	Frenos, barbadas, bozales, espuelas, estribos, almohazas, hebillas y argollas para talabartería, y artículos semejantes de cualquier metal, no siendo oro ni plata.....	.05
Hooks and pegs for clothes and other purposes, of any metal except gold or silver	.059	Ganchos ó perchas para roperos y otros usos, de cualquier metal, no siendo oro ni plata....	.08
Axes	.037	Hachas	.05
Buckles of every kind, for trousers and vests, except those of gold and silver.....	.074	Hebillas de toda clase para pantalones y chalecos, no siendo oro ni plata	.10
Buckles for ornaments, of any metal except gold and silver, for waistbands, braces, shoes, trousers, and any other use.....	.184	Hebillas de adorno de cualquier metal, no siendo oro ni plata, para fajas, tirantes, calzado, pantalones y cualquier otro uso	.25

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Metals and manufactures—Cont'd.	*Dollars.*	**Metales**—Continúa.	*Pesos.*
Tools for crafts and trades, such as adzes, gimlets, augers, compasses, bistouries, burins, chisels, gouges, hatchets, files, hammers, picks, punches, cork-screws, pincers, wrenches, planes, jack planes, awls, nippers, saws of all kinds and sizes, masons' trowels, squares, pliers, and all kinds of similar articles	.037	Herramientas para artes y oficios, como azuelas, barrenos, berbiquíes, compases, bisturíes, buriles, escoplos, formones, hachuelas, limas, martillos, picos, saca-bocados, saca-corchos, tenazas, llaves universales, desatornilladores, cepillos, garlopas, garlopines, alesnas, pinzas, serruchos de toda clase y tamaño, cucharas de albañilería, escuadras, alicates, y toda clase de artículos semejantes	.05
Tools for agricultural purposes, such as hoes, spades, rakes, shovels, and other similar articles	.022	Herramientas para agricultura, como cobas, macanas, azadas, rastrillos, palas y artículos semejantes	.03
Iron in bars or sheets	.007	Hierro en barras ó planchas	.01
Articles of cast iron, such as railing, boilers, smoothing irons, rails, pillars, posts, pieces for buildings, axle boxes, pans, ovens, etc	.011	Hierro fundido en obras, como carriles, calderos, planchas para aplanchar, rieles, pilares, postes, piezas para edificios, bocinas para ruedas de carretas, pailas, hornillas ó artículos semejantes	.01½
Articles of cast iron of any kind not otherwise specified	.014	Hierro fundido en obras de toda clase, no especificadas	.02
Iron, enameled, colored, in manufactures of any kind, such as cups, basins, plates, jugs, mugs, pots, candlesticks, etc	.037	Hierro esmaltado en colores, en obras de toda clase, como tazas, bacinillas, platos, jarros, picheles, palanganas, candeleros, etc	.05
Iron, malleable, in articles of any kind not specified	.029	Hierro maleable en obras de toda clase, no especificadas	.04
Tin plates or sheet brass	.014	Hoja lata ó latón en hojas	.02
Tin and brass articles	.059	Hoja lata ó latón en obras de toda clase y para cualquier uso	.08
Cages, traps and mouse traps of iron	.037	Jaulas, trampas y ratoneras de hierro	.05
Bird cages of copper	.074	Jaulas de cobre para pájaros	.10
Lamps, of iron or other metal except of gold and silver, and metal utensils of all kinds for lighting	.074	Lámparas de hierro ó cualquier otro metal, no siendo oro ni plata, y útiles de metal para alumbrado de toda clase	.10
Spangles of any metal except gold or silver	.184	Lentejuela de cualquier metal, no siendo oro ni plata	.50
Watch keys, except of gold and silver	.184	Llaves para relojes, no siendo de roo ni plata	.25
Machetes and knives for industrial purposes	.074	Machetes, cutachas y cuchillos para artes y oficios	.10

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Metals and manufactures—Cont'd.	*Dollars.*	**Metales**—Continúa.	*Pesos.*
Plated metal, electroplate, or nickel plate, manufactured for table use, such as plates, trays, spoons, forks, mugs, basins, cups, pitchers, casters, etc., and objects of luxury and ornament, etc	.552	Metal plateado, electro-plata ó nikel manufacturado, en obras de vajilla, como azafates, bandejas, cucharas, tenedores, picheles, palanganas, tazas, jarros, convoyes, etc., y en obras de lujo, de adorno ó para cualquier uso	.75
Moldings of any metal, painted, enameled, silvered, or gilded	.11	Molduras de cualquier metal, pintadas, esmaltadas, plateadas ó doradas	.15
Furniture of iron or steel, such as beds, cots, and cradles, with or without wire mattresses, chairs, and similar articles	.022	Muebles de hierro ó acero, como camas, catres y cunas, con ó sin colchones de alambre, sillas, butacas y muebles semejantes	.03
Furniture, etc., with brass posts, with or without wire mattresses, chairs, lounges, and similar furniture, with brass parts or ornaments	.037	Muebles de hierro ó acero, como camas, catres y cunas con pilares de bronce, con ó sin colchones de alambre, sillas, butacas y muebles semejantes, con piezas ó adornos de bronce	.05
Razors, penknives, scissors, and all similar instruments	.257	Navajas, cortaplúmas, tijeras y todo instrumento semejante	.35
Pieces of clockwork	.368	Piezas para relojes	.50
Lead, worked or not	.014	Plomo en bruto ó labrado	.02
Steel pens	.294	Plumas de acero	.40
Gold pens	3.68	Plumas de oro	5.00
Fancy daggers	.221	Puñales finos	.30
Watches of any metal except gold or silver	2.208	Relojes de bolsa de cualquier metal, no siendo de oro ni plata	3.00
Gold watches	7.36	Relojes de bolsa de oro	10.00
Silver watches	4.416	Relojes de bolsa de plata	6.00
Clocks of all kinds	.147	Relojes de toda clase para pared ó mesa	.20
Balances and scales	.074	Romanas y balanzas	.10
Tacks and screws of iron and steel	.029	Tachuelas y tornillos de hierro ó acero	.04
Netting of copper wire	.074	Tejidos de alambre de cobre	.10
Netting of iron or steel wire	.037	Tejidos de alambre de hierro ó acero	.05
Zinc in sheets or plates	.022	Zinc en pliegos ó planchas	.03
Zinc, manufactured	.074	Zinc manufacturado	.10
Food products and condiments.		**Alimentos y condimentos.**	
Olives, capers, and pickles in vinegar or brine	.014	Aceitunas, alcaparras y encurtidos en vinagre ó salmuera	.02
Olives in oil	.088	Aceitunas en aceite	.12
Sirups and jellies of any kind	.059	Almibar ó jalea de toda clase	.08
Saffron	.184	Azafrán de comer	.25

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Food products and condiments—Continued.		**Alimentos y condimentos**—Continúa.	
	Dollars.		*Pesos.*
Sugar	.029	Azúcar	.04
Cocoa in beans or ground	.74	Cacao en grano ó molido	.10
Coffee in beans or ground	.037	Café en grano ó molido	.05
Cinnamon in sticks or powder	.11	Canela en rama ó molida	.15
Meats of all kinds, dried, smoked, or salted	.022	Carnes de toda clase, secas, ahumadas ó saladas	.03
Meats, in brine, in barrels	.014	Carnes de toda clase en salmuera, en barriles	.02
Meats, preserved or seasoned, canned or not, including hams	.059	Carnes de toda clase conservadas ó condimentadas, vengan ó no en latas, inclusive jamón	.08
Pearl barley	.022	Cebada perlada	.03
Onions and garlic	.014	Cebollas y ajos	.02
Cloves	.059	Clavos de olor	.08
Cumin seed, lavender, canary seed, aniseed, coriander, and pepper	.044	Cominos, alhucema, alpiste, anís, culantro y pimienta	.06
Confectionery, sweetmeats, bonbons, and sugar or gum pastes, in any form, wrapper, or package	.059	Confituras, confites, dulces, pastillas de azúcar ó goma, en cualquier forma, envase ó empaque	.08
Rennet for cheese making	.184	Cuajo para leche	.25
Residuum of brown sugar in loaves or cakes	.014	Dulce, chancaca ó rapadura en panela ó marqueta	.02
Fruit essences for sirups	.368	Esencias de frutas para siropes	.50
Extract of meat	.147	Extracto de carne	.20
Vermicelli, macaroni, and other farinaceous pastes	.022	Fideos y demás pastas de harina	.03
Fresh fruit in its natural state	.014	Frutas frescas en estado natural	.02
Fruits preserved in juice	.037	Frutas en su jugo	.05
Fruits, dried, with or without their skins or shells, not sugared, and dried fruits, such as raisins and prunes	.044	Frutas secas, con ó sin cáscara, no confitadas y frutas pasadas, como uvas y ciruelas	.06
Fruits of all kinds in sugar, honey, or any other sweet liquor	.052	Frutas de toda clase, conservadas en dulce, miel, rosoli ó cualquier otro licor dulce	.07
Biscuits or crackers of all kinds	.029	Galletas de toda clase	.04
Peas in cans	.022	Guisantes ó petitpois	.03
Flour	.007	Harina	.01
Condensed milk	.037	Leche condensada	.05
Vegetables of all kinds, preserved or pickled, in any kind of package	.014	Legumbres de toda clase, conservadas ó encurtidas en cualquier envase	.02
Vegetables, fresh in natural state, not otherwise specified	.007	Legumbres frescas en estado natural, no especificadas	.01
Lard	.037	Manteca de puerco	.05
Butter and prepared mustard	.059	Mantequilla y mostaza compuesta	.08
Shellfish of all kinds, preserved in oil, vinegar, etc	.029	Mariscos de toda clase conservados en aceite, vinagre, etc	.04
Shellfish, dried or smoked	.022	Mariscos de toda clase, secos ó ahumados	.03

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Food products and condiments—Continued.		**Alimentos y condimentos**—Continúa.	
	Dollars.		*Pesos.*
Molasses and honey	.037	Miel de azúcar ó de abejas	.05
Sausage, Bologna, and others	.074	Mortadela y salchichón	.10
Fish of all kinds, preserved in oil, vinegar, etc.	.052	Pescados de toda clase, conservados en aceite, vinagre, etc.	.07
Fish, dried or smoked	.037	Pescados de toda clase, secos ó ahumados	.05
Cheese of all kinds	.059	Quesos de toda clase	.08
Sago, maizena, tapioca, and similar food substances	.029	Sagú, maizena, tapioca, y otras materias alimenticias semejantes	.04
Salt, table	.0036	Sal para comer	.00½
Sauces, of all kinds	.037	Salsas de toda clase	.05
Sirups and juices	.022	Siropes y jarabes	.03
Tea	.11	Té	.15
Bacon and salt pork	.029	Tocino y tocineta	.04
Vinegar	.073	Vinagre	.01
Medicines, drugs, and apothecary's sundries.		**Medicinas, drogas y útiles de boticas y droguerías.**	
Oils, olive, linseed, almond, castor, cocoanut, cod-liver, and other similar oil	.022	Aceite de olivas, linaza, almendras, castor, coyol, coco, bacalao y cualquiera otro de este género	.03
Acids, hydrochloric, muriatic, sulphuric, and nitric	.022	Acido clorhídrico, muriático, sulfúrico y nítrico	.03
Acids, phenic, carbolic, and oxalic (binoxolate of potash)	.037	Acido fénico ó carbólico, y oxálico (sal de acedera)	.05
Spirits of turpentine, and gaseous, mineral, and acidulated waters.	.014	Aguarrás, aguas gaseosas, minerales y aciduladas	.02
Orange and rose water	.074	Agua de azahares y de rosas	.10
Eau de Cologne, lavender, Florida, kananga, and other similar perfumed waters	.052	Agua de Colonia, labanda florida, divina, kananga y otras aromáticas semejantes	.07
White lead or carbonate of lead	.029	Albayalde ó carbonato de plomo	.04
Alum	.014	Alumbre	.02
Liquid ammonia or volatile alkali	.029	Amonaco líquido ó álcali volátil	.04
Rock candy	.059	Azúcar cande	.08
Sulphur of all kinds	.022	Azufre de toda clase en flores, lavado, en barras, etc.	.03
Bicarbonate of soda and crystallized carbonate of soda	.014	Bicarbonato de soda y carbonato de soda cristalizado	.02
Borax	.037	Bórax, atíncar ó borato de soda	.05
Bandages and trusses of all kinds.	.147	Bragueros de toda clase	.20
Boxes of wood or cardboard for drug stores	.014	Cajitas de madera ó cartón para uso de boticas	.02
Chloride of lime	.007	Cloruro de cal	.01
Medicinal sweetmeats or pastilles	.11	Confites ó pastillas medicinales.	.15
Corks for stoppers of bottles or vessels	.074	Corchos para tapones de botellas ó vasos	.10

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Medicines, drugs, and apothecarys' sundries—Continued.	*Dollars.*	**Medicinas, drogas y útiles de boticas y droguerías**—Continúa.	*Pesos.*
Medicinal barks	.11	Cortezas medicinales	.15
Chalk, fuller's earth or pipe clay	.014	Creta, greda ó tiza	.02
All kinds of glass bottles and vessels for chemists and druggists	.037	Cristalería en vasos ú objetos de toda clase para boticas y droguerías	.05
Artificial teeth and gums and dentists' rubber	.368	Dientes y paladares artificiales y gomas dentales	.50
Perfumed and medicinal essences	.736	Esencias de olor y medicinales	1.00
Sponges of all kinds	.736	Esponjas de toda clase	1.00
Glycerine	.059	Glicerina	.08
Gum arabic and shellac	.11	Goma arábiga y goma laca	.15
Bitters	.132	Gotas amargas ó amargo estomacal	.18
Lint	.11	Hilas para cirujía	.15
Soap and medicinal sirups	.11	Jabones y jarabes medicinales	.15
Syringes, siphons, and any other article of India rubber or gutta-percha	.221	Jeringas, chupones y cualquier otro artículo de caucho ó gutapercha	.30
Syringes and similar articles of metal, except gold and silver	.074	Jeringas y artículos semejantes de cualquier metal, no siendo de oro ni plata	.10
Syringes and other similar articles of glass	.037	Jeringas y cualquier otro artículo semejante de cristal	.05
Linseed or flaxseed in the grain or ground	.022	Linaza ó semillas de lino en grano ó molidas	.03
Cocoa butter	.11	Manteca de cacao	.15
Fat for ointments and pomades	.037	Manteca para ungüentos ó pomadas	.05
Medicines and drugs, in paste, powder, liquid, gum, or any other form, prepared in any manner not otherwise specified	.11	Medicinas y drogas en pasta, polvo, líquido, goma ó cualquiera otra forma, preparadas de cualquier manera de las no especificadas	.15
Mustard in seed or ground	.059	Mostaza en grano ó molida	.08
Artificial eyes	.147	Ojos artificiales de cualquier materia	.20
Oxide of zinc	.029	Oxido de zinc	.04
Filtering paper	.037	Papel para filtrar	.05
Rosin	.014	Pez resina	.02
Pill tiles and other metal instruments for chemists and druggists	.11	Pildoreros y demás instrumentos metálicos para boticas y droguerías	.15
Epsom salts (sulphate of magnesia) and Glauber's salts (sulphate of soda)	.014	Sal de Epson (de Inglaterra ó sulfato de magnesia) y sal de Glauber (sulfato de soda)	.02
Sal ammoniac (hydrochlorate of ammoniac)	.037	Sal amoniaco, clorhidrato ó hidroclorato de amoniaco	.05
Saltpeter, or nitrate of potash	.022	Salitre, sal de nitro, ó nitrato de potasa	.03
Medicinal seeds	.11	Semillas medicinales	.15
Persian sherbet	.037	Sherbet persian	.05
Caustic soda	.014	Soda caústica	.02

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Medicines, drugs, and apothecarys' sundries—Continued.	*Dollars.*	**Medicinas, drogas y útiles de boticas y droguerías**—Continúa.	*Pesos.*
Sulphate of iron	.007	Sulfato de hierro	.01
Sulphate of zinc, or white vitriol	.014	Sulfato de zinc ó vitriolo blanco	.02
Sulphate of copper or blue stone	.022	Sulfato de cobre ó piedra lípis	.03
Sulphate of quinine	.221	Sulfato de quinina	.30
Sulphite of soda	.037	Sulfito de soda	.05
Suspensories, waistbands, bandages, and similar articles	.147	Suspensorios, fajas, ligas, y artículos semejantes	.20
Sticking plasters, cerecloths, etc	.184	Tafetán, espadrapo, apósitos, etc.	.25
Tinctures, medicinal or not	.11	Tinturas, sean ó no medicinales.	.15
Turpentine	.074	Trementina	.10
Utensils for chemists and druggists, of china, stone, or composition, such as mortars, evaporators, etc	.022	Utiles para boticas y droguerías, de loza, piedra ó composición, como morteros, evaporadores, etc	.03
Vaseline, cosmoline, and petrolate	.074	Vaselina, cosmolina y petrolato.	.10
Poisons for skins, insects, etc	.074	Venenos para pieles, hormigas, moscas, etc	.15
Medicinal wines, such as quinine, beef, etc	.11	Vinos medicinales de quina, carne, etc	.15
Bristol's sarsaparilla and other similar patented articles	.059	Zarzaparrilla de Bristol y otras semejantes de patente	.08
Miscellaneous articles.		**Artículos varios.**	
Glass beads and bugles of all kinds	.221	Abalorios y canutillos de toda clase	.30
Fans of paper, cardboard, or palm	.184	Abanicos de papel, cartón ó palma	.25
Fans, with framework of bone, ivory, mother-of-pearl shell, wood, tortoise shell, with or without feathers, plain or embroidered	.736	Abanicos con armazón de hueso, marfil, concha nacar, madera, carey, con ó sin plumas, lisos ó bordados	1.00
Mineral oils, such as camphene, petroleum or naphtha	.007	Aceites minerales, como canfín, petróleo ó nafta	.01
Perfumery oils	.074	Aceites de olor	.10
Crochet needles of bone or any other material	.184	Agujas de hueso ó cualquiera otra materia para crochet	.25
Alabaster, marble, and similar stones manufactured into articles of any kind and for any use, weighing over 5 pounds each	.007	Alabastro, marmol y piedras semejantes, en obras de cualquiera clase y forma y para cualquier uso, de más de 5 libras	.01
Alabaster, etc., weighing less than 5 pounds	.11	Alabastro, marmol y piedras semejantes, en obras de cualquiera clase y forma y para cualquier uso, de menos de 5 libras	.15
Albums with binding of cardboard, leather or India rubber	.221	Albums con forro de cartón, piel ó caucho	.30
Albums with binding of ivory, tortoise shell, or velvet	.368	Albums con forro de marfil, carey, nacar ó terciopelo	.50

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Alcohol	Prohibited.	Alcohol	Prohibido.
Saddlebags, hammocks, and similar articles of sisal grass, agave, osier, or other like fiber	.037	Alforjas, hamacas y objetos semejantes, de cabulla pita, mimbre, ú otras fibras parecidas	.05
Jewels of all kinds, imitation of coral, pearl, jet, etc., of any material	.442	Alhajas de toda clase, imitación de coral, perla, azabache, etc., de cualquier materia	.60
Starch or feculæ for industrial purposes	.022	Almidón ó féculas de uso industrial	.03
Pillows and mattresses of wool, horsehair, or straw	.074	Almohadas y colchones de lana, crín ó paja	.10
Feather mattresses and pillows	.184	Almohadas y colchones de pluma	.25
Tar, pitch, and lampblack	.014	Alquitrán, brea y negro humo	.02
Manufactures of amber	.589	Ambar en objetos manufacturados	.80
Anilines and carmine	.221	Anilinas y carmín	.30
Eyeglasses, spectacles, binocular glasses, telescopes, and lenses, mounted in gold or silver	2.208	Anteojos, espejuelos, gemelos ó binóculos, catalejos y lentes, que tengan oro ó plata	3.00
Eyeglasses, etc., not mounted in gold or silver	.736	Anteojos, espejuelos, gemelos ó binóculos, catalejos y lentes, que no tengan guarnición de oro ó plata	1.00
Electrical apparatus for telegraphs and telephones	Prohibited.	Aparatos eléctricos para telégrafos y teléfonos	Prohibidos.
Chandeliers of glass or crystal	.059	Arañas y candelabros de cristal ó vidrio	.08
Frames for umbrellas and parasols	.096	Armaduras para paraguas y quitasoles	.13
Harness for coaches, carriages, berlins, and calashes	.147	Arneses para coches, carruajes, berlinas y calesas	.20
Harness for carts	.074	Arneses para carretones y trillos	.10
Articles of sadlery not otherwise specified	.221	Artículos de talabartería no especificados	.30
Stationery articles, not specified, not of gold or silver	.074	Artículos de escritorio no especificados y que no sean de oro ó plata	.10
Razor and knife strops	.096	Asentadores ó suavizadores de navajas de cualquiera clase	.13
Jet manufactures	.589	Azabache en artículos manufacturados	.80
Dressed sheepskins	.11	Badanas	.15
Buckets, molds and tubs of wood	.014	Baldes, moldes y tinas de madera	.02
India-rubber cushions for billiard tables	.294	Bandas de caucho para billar	.40
Playing cards	.059	Barajas ó naipes	.15
Whalebone, manufactured and for any use	.294	Barbas de ballena manufacturadas para cualquier uso	.40
Varnish of all kinds	.059	Barnices de toda clase	.08
Barometers, thermometers, and similar articles	.184	Barómetros, termómetros y artículos semejantes	.25

Articles.	Duty per p und.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Barrels, casks, and hogsheads, hooped or in shooks	.007	Barriles, pipas y bocoyes, armados ó sin armar	.01
Earthenware, glazed or unglazed, in common articles of any kind not specified	.007	Barro vidriado ó sin vidriar en artículos ordinarios de toda clase no especificados	.01
Earthenware figures, busts, and similar articles	.059	Barro en figuras, bustos y artículos semejantes	.08
Canes (without swords), thongs, and whips of any kind	.221	Bastones sin estoque, látigos y fuetes de toda clase	.30
Canes with sword or dagger	.552	Bastones con estoque ó daga	.75
Canes with ivory or metal tops	1.104	Bastones finos con puño de marfil ó metal	1.50
Trunks of wood, iron, tin, brass, covered or not	.074	Baules de madera, hierro, lata ó latón, forrados ó no	.10
Trunks, portmanteaus, and valises of leather or hide	.221	Baules, maletas y balijas de cuero ó pieles	.30
Trunks, etc., of cloth or cardboard	.147	Baules, maletas y balijas de tela ó cartón	.20
Calfskins	.199	Becerros	.27
Blacking for shoes, harness, etc	.022	Betún para calzado, arneses, etc.	.03
Billiard table and accessories, not specified	.11	Billares y sus útiles no especificados	.15
Balls of ivory, markers, and similar articles of the same material, for billiard games, etc	.736	Bolas de marfil, fichas y objetos semejantes de la misma materia, para juegos de billar, etc	1.00
Marbles of all kinds for children's toys	.014	Bolas de piedra, marmol, cristal, barro, etc., para juegos de niños	.02
Cigar holders and smoking pipes of amber, meerschaum, porcelain, or any other similar material	.368	Boquillas y pipas para fumar, de ambar, espuma, porcelana, ó cualquiera otra materia semejante	.50
Cigar holders, etc., of wood, clay, or similar material	.184	Boquillas ó pipas para fumar, de madera, barro, ó cualquiera otra materia semejante	.25
Common boots and shoes	.221	Botas ordinarias y zapatones	.30
Glass bottles and demijohns, empty	.007	Botellas y garrafones de vidrio, vacíos	.01
Buttons covered with silk or wool	.515	Botones forrados en seda ó lana	.70
Buttons, linen or cotton	.221	Botones forrados en lino ó algodón	.30
Buttons of bone, wood, china, horn, metal, and other materials not specified	.221	Botones de hueso, madera, loza, corozo, cuerno, metal y otros no especificados	.30
Buttons of mother-of-pearl, tortoise shell, or ivory, and India rubber	.368	Botones de nacar, carey, marfil y caucho	.50
Paint brushes of all kinds	.147	Brochas y pinceles	.20
Satchels and portfolios of any material	.147	Bultos y portafolios de cualquier materia	.20
Human and artificial hair, worked	.368	Cabello humano manufacturado y sus imitaciones	.50
Cables and ropes of hemp, sisal, manilla and other similar fibers,	.029	Cable ó jarcia de cabulla, manila, sisal, ú otra fibra semejante	.04

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Wooden or cardboard boxes for packing	.014	Cajas de madera ó carton para empaques	.02
Fancy boxes, empty	.147	Cajas vacías de fantasía ó de lujo	.20
Paint boxes	.074	Cajitas de pintura	.10
Boots and shoes for men and boys not otherwise specified	.294	Calzado para hombres y niños, no especificados	.40
Boots and shoes for women and girls	.368	Calzado para mujeres y niñas	.50
Boots and shoes, silk, for women and girls	.515	Calzado de seda para mujeres y niñas	.70
Boots and shoes, India rubber	.184	Calzado de caucho	.25
Camera obscura for drawings or photographs and other similar apparatus	.147	Cámaras oscuras para dibujos ó fotografías y demás aparatos semejantes	.20
Baskets, large and small, and other articles of willow and cane	.059	Canastos, canastillos y otras piezas de mimbre ó junco	.08
Manufactures of tortoise shell of any kind not mentioned	.736	Carey en obras de toda clase no especificadas	1.00
Masks of all kinds	.11	Caretas ó máscaras de toda clase	.15
Pocketbooks, cigar cases, purses, match boxes, cardcases, and other similar articles not mounted in gold or silver	.221	Carteras, cigarreras, porta-monedas, fosforeras, tarjeteras y demás artículos semejantes que no tengan oro ni plata	.30
Papier-maché in articles of all kinds, painted, lacquered, varnished, or gilded	.11	Cartón-piedra ó papier-mâché en artículos de toda clase, pintado, charolado, barnizado ó dorado	.15
Cardboard, fine, or bristol board, for visiting cards	.037	Cartón fino ó cartulina para tarjetas, etc	.05
Cardboard, common	.014	Cartón ordinario	.02
Trucks, carts, and wheelbarrows	.037	Carretones, carretas y carretillas	.05
Hand bags for travelers	.184	Carrieles ó bolsas de mano para viajeros	.25
Carriages, coaches, berlins, and calashes	.074	Carruajes, coches, berlinas y calesas	.10
India rubber in cotton stuffs, as shoes, capes, covers, boots, and other similar articles	.184	Caucho en tela de algodón, como zapatos, capas, cubiertas, botas y demás artículos semejantes	.25
India rubber manufactured in any article not specially mentioned	.294	Caucho manufacturado en obras de toda clase no especificadas	.40
India rubber in woolen fabrics, such as capes, etc	.257	Caucho en tela de lana, como capas, etc	.35
India rubber in silk fabrics, as capes, etc	.368	Caucho en tela de seda, como capas, etc	.50
Brushes, floor, animal, or shoe	.074	Cepillos para limpiar pisos, bestias ó calzado	.10
Brushes, tooth, nail, hair, clothes, etc	.147	Cepillos para dientes, uñas, cabellos, ropa ú otros usos semejantes	.20
White wax, pure or mixed, unmanufactured	.11	Cera blanca pura ó mezclada, sin labrar	.15

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Wax, etc., in candles	.147	Cera blanca pura ó mezclada, en velas	.20
Wax, etc., manufactured in articles not mentioned	.184	Cera blanca pura ó mezclada, manufacturada en artículos no especificados	.25
Horsehair, crude	.029	Cerda ó crín en bruto	.04
Beer	.014	Cerveza	.02
Patent leather	.331	Charoles	.45
Epaulets, tassels, and cords of imitation gold and silver	1.104	Charreteras, borlas y cordones de oro ó plata falsos	1.50
Slippers in parts or made	.221	Chinelas en cortes ó trabajadas	.30
Saddle girths of all kinds	.074	Cinchas de toda clase	.10
Children's carriages of all kinds	.059	Cochecitos de toda clase para niños	.08
Glues of any material	.044	Cola para pega, de cualquier materia	.06
Colors of all kinds not specified, in powder, paste, or oil	.029	Colores de toda clase no especificados, en polvo, pasta ó aceite	.04
Colors ready mixed	.11	Colores de toda clase, en tintiras	.15
Mother-of-pearl shell manufactured in articles of all kinds, not specified	.368	Concha nacar manufacturada en artículos de toda clase, no especificados	.50
Coral, manufactured	1.84	Coral manufacturado en artículos de toda clase	2.50
Coral, mounted with gold or silver	3.68	Coral manufacturado en artículos de toda clase, montados en oro ó plata	5.00
Cork, manufactured	.074	Corcho en obras para cualquier uso	.10
Cork, unmanufactured	.014	Corcho en bruto	.02
Funeral wreaths and ornaments	.368	Coronas fúnebres y adornos funerarios	.50
Shoe uppers of lasting, plain and without tips	.294	Cortes para calzado, de sarga, lisos y sin punteras	.40
Shoe uppers of lasting, plain and with tips	.331	Cortes para calzado, de sarga, lisos y con punteras	.45
Shoe uppers of lasting, fancy, or patent leathered	.368	Cortes para calzado, de sarga, adornados ó con pié de charol	.50
Shoe uppers of calf or any other skin	.294	Cortes para calzado, de becerro ó cualquiera otra piel	.40
Shoe uppers of patent leather	.441	Cortes para calzado, de charol	.60
Shoe uppers of enameled hide	.294	Cortes para calzado, de vaqueta charolada	.40
Shoe uppers of silk	.515	Cortes para calzado, de seda	.70
Workboxes or toilet cases for ladies	.184	Costureros ó neceseres para mujeres	.25
Crinolines, dress improvers, and similar articles	.184	Crinolinas, zagalejos y artículos semejantes	.25
Glass, common, in sheets, plain and clear	.014	Cristal ó vidrio ordinario en pliegos claros y lisos	.02
Glass, in sheets, ground, white, or colored, plain or fancy	.029	Cristal ó vidrio, en pliegos, apizarrado ó de color, liso ó labrado	.04

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Glass, manufactured in articles of any kind and for any use not specified	.037	Cristal ó vidrio manufacturado en artículos de cualquier clase, y para cualquier uso no especificado	.05
Frames for mirrors and engravings, with or without glass	.11	Cuadros para espejos ó estampas, con ó sin vidrio	.15
Collars and cuffs, paper	.074	Cuellos y puños de papel	.10
Collars and cuffs, celluloid	.441	Cuellos y puños de celuloide	.60
Beads of all kinds, imitation gold, pearl, coral, jet, etc., either of glass, porcelain, or any other similar material	.221	Cuentas de toda clase, imitación de oro, perlas, coral, azabache, etc., sean de vidrio, porcelana ó cualquiera otra materia semejante	.30
Strings of all kinds for musical instruments	.368	Cuerdas para instrumentos de música de toda clase	.50
Horn, manufactured, not specified	.221	Cuerno manufacturado en artículos de cualquiera clase no especificados	.30
Diamonds, uncut or cut	18.40	Diamantes en bruto ó tallados	25.00
Diamonds, mounted for cutting glass	.368	Diamantes montados para cortar vidrios	.50
Staves and hoops of wood	.007	Duelas, aros ó flejes de madera	.01
Cotton elastic web for shoes or garters	.228	Elástico de algodón para calzado ó ligas	.31
Silk elastic web for shoes or garters	.493	Elástico de seda para calzado ó ligas	.67
Woolen elastic for shoes or garters	.331	Elástico de lana para calzado ó ligas	.45
Oilcloth or canvas for packing	.037	Encerados comunes para enfardar	.05
Brooms of all kinds made of vegetable fibers	.022	Escobas de toda clase, de materia vegetal	.03
Brooms of bristles	.074	Escobas de toda clase, de cerda	.10
Sculptures, statues, or figures of any material not specified	.074	Esculturas, estátuas ó imágenes de cualquier materia, no especificada	.10
Emery, in stone or powder	.022	Esmeril en piedra ó polvo	.03
Looking-glasses of all kinds, with or without frames	.074	Espejos de toda clase y en toda forma, con ó sin marco	.10
Prints, on paper or cardboard, with or without frames	.074	Estampas en papel ó cartón, con ó sin marco	.10
Prints, on cloth, with or without frames	.147	Estampas en lienzo, con ó sin marco	.20
Matting, mats, and palm mats	.014	Estera, esterilla y petates	.02
Stereoscopes, cosmoramas, dioramas, magic lanterns, and other similar apparatus	.147	Estereoscopios, cosmoramas, dioramas, linternas mágicas y demás aparatos semejantes	.20
Caskets or dressing cases	.184	Estuches ó neceseres	.25
Labels, plain or printed	.059	Etiquetas en blanco ó con rótulos	.08
Waistbands and belts of dressed cowhide or any other leather, for men or women	.221	Fajas de vaqueta ó cualquier otro cuero, para hombres ó mujeres	.30

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Lanterns and lamps, glass	.037	Fanales, faroles y linternas de vidrio ó cristal	.05
Lanterns, paper	.014	Faroles y linternas de papel	.02
Water filters of any material	.014	Filtros de cualquier materia para agua	.02
Artificial flowers and fruit of any kind, set, or in sprays or bunches	.331	Flores y frutas artificiales de cualquier materia, arreglados ó en piezas	.45
Flower stands or pots of glass, chinaware, or imitation porcelain	.037	Floreros de cristal, china ó imitación de porcelana	.05
Matches of all kinds	.029	Fósforos de toda clase	.04
Photographs of any kind, with or without frame	.184	Fotografías de toda clase con ó sin marco	.25
Fireworks and pyrotechnic compositions of all kinds	.11	Fuegos artificiales ó mixtos pirotécnicos de toda clase	.15
Bellows of all kinds	.074	Fuelles de toda clase	.10
Percussion caps for firearms	.147	Fulminantes ó pistones para armas de fuego	.20
Saddletrees or frames	.029	Fustes ó armazones para monturas	.04
Galloons, beads, fringes, and embroidery of imitation of gold and silver	1.104	Galones, flecos y gusanillos de oro ó plata falsos	1.50
Wash leather	.147	Gamusas	.20
Caps of all kinds made of cloth	.589	Gorras, kepis ó cachuchas de paño	.80
Cochineal	.184	Grana ó cochinilla	.25
Grease not mentioned	.037	Grasas no especificadas	.05
Gloves of any material not specified	.589	Guantes de cualquier materia, no especificados	.80
Kid gloves	.883	Guantes de cabritilla	1.20
Hydrometers	.184	Hidrómetros	.25
Lasts and molds of all kinds	.007	Hormas de toda clase	.01
Manufactures of bone of all kinds, in articles not specified	.221	Hueso manufacturado de toda clase, en obras no especificadas	.30
Incense of any kind	.11	Incienso de toda clase	.15
Musical instruments with keyboard, such as pianos, harmoniums, organs, etc.	.074	Instrumentos de música de teclado, como pianos, armonios, órganos, etc.	.10
Musical instruments with handle	.147	Instrumentos de música de cigüena	.20
Musical instruments, stringed, such as guitars, violins, etc.	.11	Instrumentos de música de cuerda, como guitarras, violines, etc	.15
Musical instruments, wind, such as flutes, cornets, clarinets, etc.	.147	Instrumentos de música de viento, como flautas, pistones, clarinetes, etc.	.20
Musical instruments, such as harpsichords, accordions, mouth organs, jews' harps, and other similar toys	.074	Instrumentos de música, como dulzainas, acordiones, organillos de boca, y otros semejantes para juguetes	.10

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Musical instruments for bands, such as kettledrums, drums, cymbals, triangles, and other similar instruments	.074	Instrumentos para banda, como timbales, tambores, platillos, triángulos, y otros semejantes.	.10
Soap, common	.014	Jabón ordinario	.02
Soap, fine toilet, perfumed	.074	Jabón fino perfumado de tocador	.10
Cordage of hemp, manilla or sisal.	.029	Jarcia de cabulla, manila ó sisal.	.04
Sets for chess, checkers, dominoes, roulette, lotto, and similar games	.184	Juegos de ajedrez, damas, dominó, ruleta, lotería, y otros semejantes	.25
Children's toys of all kinds, except those made of India rubber.	.11	Juguetes de toda clase para niños, no siendo de caucho	.15
India-rubber toys for children	.221	Juguetes de caucho para niños.	.30
Cane, unmanufactured or manufactured	.059	Junco sin manufacturar ó manufacturado	.08
Sealing wax of all kinds	.11	Lacre de toda clase	.15
Bricks of any kind and material, not specified	.007	Ladrillos de toda clase y materia, no especificados	.01
Lamps of all kinds, not specified.	.074	Lámparas de toda clase, no especificadas	.10
Pencils of all kinds	.11	Lápices de toda clase	.15
Pencil cases and penholders, not of gold and silver	.11	Lapiceros y mangos para plumas, no siendo de oro ni plata.	.15
Gold and silver leaf, real and imitation, for gilding and silvering	.736	Libros con hojillas de oro ó plata, finos ó falsos para dorar ó platear	1.00
Blank books	.051	Libros y cuadernos en blanco	.07
Sweet liquors, up to 12°	.037	Licores dulces ó mistelas hasta de 12°	.05
Spirits (*See* articles of special duty.)		Licores fuertes. (*Véase* artículos de derecho especial.)	
Common chinaware	.014	Loza de china ordinaria	.02
Chinaware, imitation of porcelain, in articles of any kind not specified	.029	Loza de china, imitación de porcelana, en artículos de toda clase, no especificadas	.04
Hops	.022	Lúpulo	.03
Manufactures of wood not specified	.022	Madera manufacturada en cualquiera forma, no especificada.	.03
Wood not manufactured	.007	Madera no manufacturada	.01
Ivory manufactures of all kinds, not specified	.736	Marfil en obras de toda clase, no especificadas	1.00
Marble dust	.007	Marmol en polvo	.01
Measures of leather, cloth, or metal for the arts and trades, covered or not	.147	Medidas de cuero, género ó metal para artes y oficios, forradas ó no	.20
Measures of wood or metal, foot rules	.047	Medidas de madera ó metal, como pulgarios	.10
Metronomes	.096	Metrónomos y metrómetros	.13
Molasses and honey	.022	Miel de azúcar ó de abejas	.03
Wooden moldings, painted, enameled, gilt, or silvered	.11	Molduras ó reglas de madera, pintadas, charoladas, doradas ó plateadas	.15
Grindstones and hones, all kinds.	.022	Molejones y piedras de afilar de toda clase	.03

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Saddles of all kinds	.147	Monturas de toda clase	.20
Furniture of wood, such as chairs, lounging chairs, sofas, etc., with upholstering of every kind	.037	Muebles de madera, como sillas, silletas butacas, sofás, etc., con tapicería de cualquier clase	.05
Furniture of wood, such as beds, wardrobes, dressing tables, bureaus, tables, and any other similar pieces not specified	.059	Muebles de madera, como camas, roperos, tocadores, cómodas, mesas y otros semejantes no especificados	.08
Levels of all kinds	.037	Niveles de toda clase	.05
Wafers of all kinds	.11	Obleas de toda clase	.15
Ochre and other earths, for paint	.029	Ocre y otras tierras para pintar	.04
Tinsel	.368	Oropel	.50
Paper and cardboard, common, for wrapping, and brown paper, including paper bags, etc	.014	Papel y cartón ordinario para envolver y de estraza, inclusive sacos de papel ó cartón	.02
Papers of all kinds not specified, including blotting paper	.029	Papel de toda clase no especificado, inclusive secante	.04
Wall paper and ornamental paper	.088	Papel para entapizar y adornar	.12
Paper and cardboard, enameled, silver, or gilt	.118	Papel y cartón, esmaltado, plateado ó dorado	.16
Sand paper	.037	Papel de lija	.05
Umbrellas and parasols, cotton	.11	Paraguas y sombrillas de algodón	.15
Umbrellas and parasols, wool	.184	Paraguas y sombrillas de lana	.25
Umbrellas and parasols, silk	.368	Paraguas y sombrillas de seda	.50
Wooden rulers	.074	Pautas y reglas de madera para rayar	.10
Combs of horn and bone	.221	Peines y peinetas de cuerno ó hueso	.30
Combs of rubber, gutta-percha, or celluloid	.368	Peines y peinetas de caucho, gutapercha, ó celuloide	.50
Combs of ivory or tortoise shell	.736	Peines y peinetas de marfil ó carey	1.00
Combs of materials not specified	.294	Peines y peinetas de materias no enumeradas	.40
Perfumery and scents of all kinds, such as oils, soaps, powders, etc	.074	Perfumería y olores de toda clase, como aceites, jabones, polvos, etc	.10
Parchment and its imitations	.11	Pergamino y sus imitaciones	.15
Pearls, real, not set	3.68	Perlas finas sin montar	5.00
Venetian and other wooden blinds	.037	Persianas, celosías ó venecianas de madera	.05
Flints	.014	Piedras de chispa	.02
Skins, manufactured or not, and not mentioned	.221	Pieles manufacturadas ó no, y no especificadas	.30
Paint of any kind not specified in powder, paste or oil	.029	Pintura de toda clase, no especificada, en polvo, pasta ó aceite	.04
Pistol holsters of all kinds	.147	Pistoleras de toda clase	.20
Slates, with or without frames, and slate pencils	.007	Pizarras con ó sin marco y pizarrines	.01

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Tablets of porcelain, cardboard, or glass, for writing upon with pencils	.037	Pizarras de porcelana, cartón ó vidrio para escribir con lápiz	.05
Quill pens	.147	Plumas de ave para escribir	.20
Feathers and plumes for trimmings	.588	Plumas y plumeros para adornos	.80
Feather dusters, for furniture	.368	Plumeros para limpiar muebles	.50
Gunpowder for mining purposes, by special permission of Government only	.294	Pólvora para minas, con permiso especial del Gobierno	.40
Gunpowder of other kinds	Prohibited.	Pólvora de otra clase	Prohibida.
Patent-leather tips for shoes	.441	Punteras de charol para calzado	.60
Portraits in oil or crayon, with or without frame	.184	Retratos al oleo ó al crayón, con marco ó sin él	.25
Wheels for trucks, carts, and wheelbarrows	.037	Ruedas de radios para carretones, carretas y carretillas	.05
Wheels for carriages, coaches, and calashes	.074	Ruedas de radios para carruajes, coches y calesas	.10
Tallow, raw	.014	Sebo en bruto	.02
Tallow candles	.037	Sebo en velas	.05
Seals and stamps of any kind	.147	Sellos y timbres de toda clase	.20
Panama straw hats	1.104	Sombreros de pita ó de Jipijapa	1.50
Palm or straw hats, without trimming, for men, women, and children	.294	Sombreros de paja ó palma sin adornar para hombres, mujeres y niños	.40
Hats, of felt, wool, velvet, silk, otter, or any other stuff, for men and boys	.368	Sombreros de fieltro, lana, terciopelo, felpa, nutria ó cualquier otra materia para hombres ó niños	.50
Hats or bonnets of plush, felt, wool, palm, or straw, or any other material, trimmed, for girls or women	.441	Sombreros ó gorras de felpa, fieltro, vicuña, palma ó paja, ó cualquiera otra materia, adornados para mujeres y niños	.60
Sole leather for shoes and other uses	.110	Suela ó vaqueta para calzado y otros usos	.15
Tobacco, unmanufactured	Prohibited.	Tabaco en rama	Prohibido.
Tobacco, manufactured, by special permission of Government	.441	Tabaco manufacturado, con permiso especial del Gobierno	.60
Plug tobacco or snuff	.294	Tabaco andullo ó rapé	.40
Morocco leather	.147	Tafiletes	.20
Cloths, painted, varnished or japanned for floors, tables, and similar uses	.074	Tela pintada, barnizada ó charolada, para pisos, mesas y usos semejantes	.10
Thermometers	.184	Termómetros	.25
Ink of all kinds for writing and marking	.014	Tinta de toda clase para escribir y marcar	.02
Oriental tonic and like articles for the hair	.074	Tónico oriental y artículos semejantes para el cabello	.10
Firecrackers and Chinese rockets	.037	Triquitraques ó cohetes chinos	.08
Glass show cases	.059	Urnas de cristal	.05
Candles, sperm, paraffine, composition, or stearine	.037	Velas de esperma, parafina, composición ó estearina	.05

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Miscellaneous articles—Continued.	*Dollars.*	**Artículos varios**—Continúa.	*Pesos.*
Velocipedes of any kind	.074	Velocípedos de toda clase	.10
Watch glasses	.736	Vidrios para relojes de bolsillo	1.00
Wines of all kinds and in any package	.022	Vinos de toda clase y en cualquier envase	.03
Wines, sparkling, such as champagne, and the like	.044	Vinos espumosos, como champagne y otros semejantes	.06
Plaster of Paris, solid or in powder	.007	Yeso en piedra ó polvo	.01
Plaster, manufactured in articles of all kinds not specified	.022	Yeso manufacturado en obras de toda clase no especicadas	.03
ARTICLES PAYING SPECIAL DUTY.		**ARTÍCULOS DE DERECHO ESPECIAL.**	
Spirits, foreign, more than 12°, up to 25° Carthier per bottle	.294	Licores fuertes extranjeros de más de 12° y hasta 25° Carthier, la botella	.40
The same, above 25° Carthier (by special permission of the Government), in addition to above duty, for every degree in excess.	.022	Licores fuertes extranjeros de más de 25° Carthier (con permiso especial del Gobierno), á más del anterior derecho, por cada grado de exceso	.03
Gunpowder for mines (by special permission of Government)	.294	Pólvora para minas (con permiso especial del Gobierno)	.40
Tobacco, manufactured (by special permission of Government)	.441	Tabaco labrado (con permiso especial del Gobierno)	.60
Plug tobacco and snuff	.294	Tabaco andullo ó rapé	.40
Goods imported at Cape Gracias á Dios.		*Los importaciones en el Cabo de Gracias á Dios.*	
Foreign merchandise imported at Cape Gracias á Dios for consumption in that district will pay a 40 per cent. duty upon the value established in the present tariff. The following articles which will pay the special duty as set forth, are excepted from this provision:		Las mercaderías extranjeras que se importen al Cabo de Gracias á Dios para consumo de la Comarca pagarán un 40 por ciento de derecho sobre el valor que establece la presente tarifa. Exceptúanse de esta disposición los artículos siguientes que pagarán el derecho especial que se expresa:	
Spirits, foreign, more than 12° up to 25° Carthier, per bottle	.294	Licores fuertes extranjeros de más de 12° y hasta 25° Carthier, la botella	.40
The same, above 25° Carthier, in addition to the above duty, for every degree in excess	.022	Licores fuertes extranjeros de más de 25° Carthier, á más del anterior derecho, por cada grado de exceso	.03
Gunpowder	.221	Pólvora	.30
Tobacco of any kind	.294	Tabaco en cualquier a forma y clase	.40
Ceutral American Products.		*Los productos del Centro América.*	
The natural products and manufactures imported from any of		Los productos naturales y manufacturados procedentes de	

Articles.	Duty per pound.	Artículos.	Derechos por libra.
Central American Products—Continued.	*Dollars.*	*Los productos del Centro América*—Continúa.	*Pesos.*
the other Central American republics will pay in all the custom-houses of the Republic the duty established by their respective treaties, calculated on the value of the invoice.		las demás repúblicas de Centro-América pagarán en todas las aduanas de la República los derechos establecidos por los tratados respectivos, calculados sobre el valor de factura.	
FREE LIST.		**ARTÍCULOS LIBRES.**	
Fans of paper or cardboard with advertisements).		Abanicos de papel ó cartón con avisos.	
Fertilizers for the soil.		Abonos para tierras.	
Stills (by special permission of the Government.)		Alambiques (con permiso especial del Gobierno).	
Wire, fencing, with or without barbs, clamps, posts, clips, and other accessories, of wire net less than three lines in diameter.		Alambre para cercas, con ó sin púas, sus grapas, barras, tenazas y demás accesorios, no siendo el alambre de menos de trés líneas de diámetro.	
Sledge hammers.		Almadanas.	
Animals, live or stuffed.		Animales vivos ó disecados.	
Plows, harrows, and rakes for agricultural purposes.		Arados y peines para agricultura.	
Asphalt.		Asfalto.	
Winnowing and sorting machines for coffee and other seeds.		Aventadores y clasificadores de café y otros granos.	
Mercury for mines.		Azogue para minería.	
Drills for mining purposes.		Barrenos para minas.	
Water pumps of metal of any kind.		Bombas de cualquier metal para sacar agua.	
Surveyors and nautical compasses.		Brújulas de toda clase para agrimensores ó naúticos.	
Lime and cement.		Cal y cimentos.	
Iron tubing, with the cocks or faucets.		Cañería de hierro y sus llaves ó grifones.	
Coal and animal charcoal.		Carbón de piedra y animal.	
Crucibles for melting metals.		Crisoles para fundir metales.	
Machines for ginning, hulling, and shelling.		Desmotaderas, descascaradoras y desgranadoras.	
Dynamite for mines (by special permission of Government).		Dinamita para minas (con permiso especial del Gobierno).	
Buildings and houses of wood or iron.		Edificios ó casas de madera ó de hierro.	
Vessels and boats of all kinds, fitted together or in parts.		Embarcaciones de toda clase, armadas ó sin armar.	
Passengers' personal baggage, excluding effects which have not been used and furniture, which must pay duty according to its class.		Equipajes del uso de los pasajeros, con exclusión de los efectos que no hayan sido usados y de los muebles, los cuales pagarán según la clase á que correspondan.	
Geographical or astronomical spheres or globes.		Esferas ó globos celestes y terrestres.	
Iron water tanks.		Estanques de hierro para depósito de agua.	
Forges.		Fraguas.	

Free list—Continued.

Fountains and accessories for parks, gardens, etc.
Ice.
Birds' eggs.
Printing presses with accessories.
Astronomical, physical, chemical, and hydraulic instruments, not specified.
Horticultural implements.
Surgical and mathematical instruments.
Hypodermic syringes.
Printed books and printed matter.
Pump hose.
Geographical maps and charts of any kind.
Machinery of any kind, for agricultural purposes, arts, and trades, and parts of such machines.
Microscopes of all kinds.
Windmills.
Steam motors or animal-power machines.
Samples of goods in pieces and without value.
Church organs.
Gold in ingots, bars, dust, or coins.
Potatoes, grains, and other field products not specially mentioned.
Music paper and printed music.
Printing paper in sheets, not less than 29 inches by 20 inches.
Lightning rods.
Fodder for animals.
Fire bricks and tiles for smelting furnaces.

Live plants of any kinds.
Silver in ingots, bars, or coins.
Hydraulic presses.
Tower clocks, including dials and bells.

Seeds of all kinds for agriculture.
Galvanized-iron roofing, gutters, ridging, clamps, and screws for the same.

Telescopes.

ARTICLES PROHIBITED.

Stills.
Alcohol.
Telegraphic and telephonic apparatus of all kinds.
Firearms, precision, such as rifles, etc., (are admitted only by special permission of the Government).
Military arms, such as rifles, cannon, etc.

Artículos libres—Continúa.

Fuentes y sus accesorios para parques, jardines, etc.
Hielo.
Huevos de aves.
Imprentas, sus útiles y accesorios.
Instrumentos astronómicos, físicos químicos é hidráulicos, no especificados.
Instrumentos de horticultura.
Instrumentos de cirugía y matemáticas.
Jeringas hipodérmicas.
Libros, cuadernos y papeles impresos.
Mangueras para bombas.
Mapas ó cartas geográficas de toda clase.
Maquinaria de toda clase y sus piezas, para agricultura, artes y oficios.

Microscopios de toda clase.
Molinos de viento.
Motores de vapor ó fuerza animal.
Muestras de mercancías en pedazos y sin valor..
Organos para iglesias.
Oro en pasta, barras, polvo ó moneda.
Papas, granos y demás cereales no especificados.
Papel rayado para música impresa.
Papel para periódicos en pliegos de 29 x 20 pulgadas, por lo menos.
Pararayos.
Pastos ó pienso para animales.
Piedras y ladrillos refractarios para hornos de fundición.
Plantas vivas de toda clase.
Plata en pasta, lingotes ó moneda.
Prensas hidráulicas.
Relojes para torres, incluyendo sus muestras y campanas.
Semillas de toda clase para cultivo.
Techos de hierro galvanizado, canales, cabelletes, ganchos y tornillos para los mismos.
Telescopios.

ARTÍCULOS PROHIBIDOS.

Alambiques.
Alcohol.
Aparatos para telégrafos y teléfonos.

Armas de fuego de precisión, como rifles, etc., (se permiten sólo con licensia especial del Gobierno).
Armas de fuego para ejército, como rifles, cañones, etc.

Articles prohibited—Continued.

Bayonets.
Dynamite (admitted for mining purposes only by special Government license).
Gunpowder (admitted for mining purposes only by special Government license).
Tobacco in leaf.
Tobacco, manufactured (only admitted by special permission of the Government).

Articles not enumerated.

Articles or objects not enumerated in this tariff will pay the rate assessed on articles most similar to them; articles not enumerated composed of various materials will pay the rate of the one predominating; those which can not be classified will be assessed 50 per cent. on the original invoice value, exclusive of charges. If there is no invoice the value will be ascertained by experts.

Artículos prohibidos—Continúa.

Bayonetas.
Dinamita (sólo para minas se permite con licencia especial del Gobierno).
Pólvora (sólo para minas se permite con licencia especial del Gobierno).
Tabaco en rama.
Tabaco labrado (se permite sólo con licencia especial del Gobierno).

Artículos no enumerados.

Los artículos ú objetos no enumerados en la presente tarifa, pagarán el derecho del más semejante; los no enumerados y que se compongan de diversas materias, pagarán el derecho del de la materia que más predomine en ellos; los no enumerados y que no puedan ser clasificados, se liquidarán al 50 por ciento sobre el valor de la factura original sin gastos. En falta de factura original, se procederá á valorarlos por peritos.

Appendix B.

RECIPROCAL COMMERCIAL ARRANGEMENT BETWEEN THE UNITED STATES AND NICARAGUA.

Whereas, pursuant to section 3 of the act of Congress approved October 1, 1890, entitled "An act to reduce the revenue and equalize duties on imports, and for other purposes," the Secretary of State of the United States of America communicated to the Government of Nicaragua the action of the Congress of the United States of America, with a view to secure reciprocal trade, in declaring the articles enumerated in said section 3 to be exempt from duty upon their importation into the United States of America;

And whereas the envoy extraordinary and minister plenipotentiary of Nicaragua at Washington has communicated to the Secretary of State the fact that, in reciprocity for the admission into the United States of America free of all duty of the articles enumerated in section 3 of said act, the Government of Nicaragua will, by due legal enactment, admit free of all duty, from and after April 15, 1892, into all the ports of entry of Nicaragua, the articles of merchandise named in the following schedule, provided that the same be the product of the United States:

SCHEDULE OF ARTICLES WHICH THE REPUBLIC OF NICARAGUA WILL ADMIT FREE OF ALL KIND OF DUTY.

1. Animals, live.
2. Barley, Indian corn, wheat, oats, rye, and rice.
3. Seeds of all kinds for agriculture and horticulture.
4. Live plants of all kinds.
5. Corn meal.
6. Starch.
7. Beans, potatoes, and all other vegetables, fresh or dried.
8. Fruits, fresh or dried.
9. Hay, bran, and straw for forage.

10. Cotton-seed oil and all other products of said seed.
11. Tar, resin, and turpentine.
12. Asphalt, crude or manufactured in blocks.
13. Quicksilver for mining purposes.
14. Coal, mineral or animal.
15. Fertilizers for land.
16. Lime and cement.
17. Wood and lumber, in the rough, or prepared for building purposes.
18. Houses of wood or iron.
19. Marble, in the rough or dressed, for fountains, gravestones, and building purposes.
20. Tools and implements for agricultural and horticultural purposes.
21. Wagons, carts, and handcarts.
22. Iron and steel, in rails for railroads and other similar uses, and structural iron and steel for bridges and building purposes.
23. Wire, for fences, with or without barbs, clamps, posts, clips, and other accessories, of wire not less than 3 lines in diameter.
24. Machinery of all kinds for agricultural purposes, arts, and trades, and parts of such machinery.
25. Motors of steam or animal power.
26. Forges, water pumps of metal, pump hose, sledge hammers, drills for mining purposes, iron piping with its keys and faucets, crucibles for melting metals, iron water tanks, and lightning rods.
27. Roofs of galvanized iron, gutters, ridging, clamps, and screws for the same.
28. Printing materials.
29. Books, pamphlets, and other printed matter, and ruled paper for printed music, printing paper in sheets not less than 29 by 20 inches.
30. Geographical maps or charts, and celestial and terrestrial spheres or globes.
31. Surgical and mathematical instruments.
32. Stones and fire-bricks for smelting furnaces.
33. Vessels and boats of all kinds, fitted together or in parts.
34. Gold and silver in bullion, bars, or coin.

It is understood that the packages or coverings in which the articles named in the foregoing schedule are imported shall be free of duty if they are usual and proper for the purpose.

And that the Government of Nicaragua has further stipulated that the laws and regulations, adopted to protect its revenue and prevent fraud in the declarations and proof that the articles named in the foregoing schedule are the product of the United States of America, shall impose no undue restrictions on the importer nor additional charges on the articles imported.

And whereas the Secretary of State has, by my direction, given assurance to the Envoy Extraordinary and Minister Plenipotentiary of Nicaragua at Washington that this action of the Government of Nicaragua in granting freedom of duties to the products of the United States of America on their importation into Nicaragua, is accepted as a due reciprocity for the action of Congress as set forth in section 3 of said act:

Now, therefore, be it known that I, Benjamin Harrison, President of the United States of America, have caused the above-stated modifications of the tariff laws of Nicaragua to be made public for the information of the citizens of the United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington, this 12th day of March, one thousand eight hundred and ninety-two, and of the Independence of the United States of America the one hundred and sixteenth.

BENJ. HARRISON.

By the President:

[SEAL.] WILLIAM F. WHARTON,
Acting Secretary of State.

PRECEDING CORRESPONDENCE.

Mr. Blaine to Señor Guzman.

DEPARTMENT OF STATE,
Washington, January 3, 1891.

SIR: I have the honor to bring to your attention the fact that the Congress of the United States at its last session enacted a law, of which a copy is inclosed herewith, in which provision was made for the admission into the United States, free of all duty, of the following articles: All sugars not above No. 16 Dutch standard in color, molasses, coffee, tea, hides, and skins.

In section 3 of this law it is declared that these remissions of duty were made "with a view to secure reciprocal trade with countries producing" those articles; and it is provided that, whenever the President shall be satisfied that reciprocal favors are not granted to the products of the United States in the countries referred to, "he shall have the power and it shall be his duty" to impose upon the articles above enumerated, the products of the countries concerned, the rates of duty set forth in section 3.

The Government of the United States, being earnestly desirous of maintaining with the Republic of Nicaragua such trade relations as shall be reciprocally

equal and mutually advantageous, I am directed by the President to request you to bring the above-mentioned provisions of this act of Congress to the attention of your Government, and to express the hope that you may be empowered to enter with me upon the consideration of the subject, with a view to the adjustment of the commercial relations between the two Republics on a permanent basis of reciprocity, profitable alike to both.

Accept, sir, etc.,

JAMES G. BLAINE.

DECREE OF NICARAGUAN GOVERNMENT.

REPUBLIC OF NICARAGUA,
Department of the Treasury.

Whereas the Government must watch that the privileges and favors granted under the reciprocity commercial arrangements entered into between this Republic and the United States, as to certain articles of merchandise imported from the latter, do not result in detriment to the public revenue, by being unduly extended to merchandise coming from other countries, which are not entitled to the same benefits, and imported, or intended to be imported, as if coming from the United States; it has, therefore, decreed the following:

ARTICLE 1. The importers of merchandise manufactured in the United States shall be bound, in order to enjoy the benefits provided for in the said commercial arrangement, to append to declarations to be filed by them before the custom authorities, a certificate from the proper official of the United States showing that the merchandise therein referred to has been manufactured in the United States, and this certificate shall have to be authenticated by the Consul of Nicaragua of the respective place in the United States.

ART. 2. The collectors of customs shall levy the proper duties on all merchandise, claimed to be entitled to free admission, whose origin is not proven by the authenticated certificate provided for in the preceding article.

ART. 3. The provisions of the present decree shall begin to be in force one month after date.

Let it be published.

MANAGUA, *November 21, 1892.*
SACASA.

By the President:

MARENCO,
Secretary of the Treasury and of Public Credit.

Appendix C.

THE JEWELL IRRIGATION CONTRACT.

The Minister of Public Works, in representation of the Government, and Jesse J. Jewell for himself, have agreed as follows:

First. The Government grants Jewell for thirty years the exclusive right of using the waters of the Gil Gonzalez River and its tributaries, to supply with water the towns and to irrigate the lands that lie within the following limits: To the east of Lake Nicaragua, to the south of the Enmedio River, to the west of a line that will commence from the principal branch of the Gil Gonzalez River and terminates 5 miles above the mouth of the Enmedio River, and to the north of a line to be drawn at a distance of 1 mile from the left bank of the Gil Gonzalez, parallel with said bank.

Second. Jewell obliges himself (1) to commence the damming up of the river and to construct the water reservoirs within one year, to be counted from the date of ratification of this contract by the Congress of the Republic; (2) to furnish the water necessary for the irrigation of the cultivated lands that lie within the aforesaid limits, it being understood that the water stored up be sufficient for that purpose, even after supplying the towns of Rivas, San Jorge, Potosí, Buenos Aires, and Belem; (3) to sell water in these towns in public places, to be established, and to supply the houses of the inhabitants who shall wish it; (4) not to charge more than 1½ cents during the first fifteen years of this concession nor more than 1 cent during the rest of the term, for each cubic foot of water that he may sell at public places or deliver through pipes to dwellings; (5) nor to charge over $15 for every hundred thousand gallons of water per manzana he furnishes for the irrigation of plantations, it being well understood that these prices do not comprise pipes, faucets, and other fixtures necessary for the distribution of water in dwellings, nor the pipes nor channels for the supply on the plantations to be irrigated, the cost of these materials to be reimbursed to Jewell by the parties interested, at conventional prices; (6) to establish the public water-selling place at least in three of the towns mentioned within two years after commencing work, and to have the water supply ready for the rest

of the towns one year after at the latest, so that the whole enterprise may be in full running order within four years after the ratification of this contract.

In case that Jewell should not be able to furnish the water for irrigation, the privilege granted to him for that purpose will be forfeited, or limited to the area he is able to supply, for which end he has to publish an announcement, indicating such area at the latest one year after finishing the principal dam. The privilege regarding irrigation will also be forfeited in case that, in spite of announcing its readiness, it should be evident that he can not manage it in the proportion of a hundred thousand gallons to one manzana of land during five consecutive months in the dry season.

Third. The term of thirty years referred to in clause 1 is to commence on the date on which the selling of the water in any of the towns mentioned in article 2 is begun, and this term as well as the one stipulated for the commencement and conclusion of the work may be prorogued to a space of time equal to that of any impediment caused by a war in which the Republic might get entangled, or by natural obstacles brought about by soil or climate. At and after the end of thirty years mentioned, the State has the right at any time to buy the enterprise for two-thirds of its valuation as made by experts, one to be approved by either party who will designate a third in case of non-agreement. If the State should not buy the enterprise after thirty years referred to, Jewell may continue to exploit it for another thirty years with the obligation of paying to the Government 5 per cent of the net earnings. The second thirty years having expired, the enterprise will be transferred to the State without any remuneration, but Jewell will have the preference in case the Government should resolve to sell or lease it.

Fourth. The enterprise is hereby declared one of public utility. Jewell will have the right to expropriate, according to the law, the private lands he may need for the construction of dams, artificial lakes or reservoirs, buildings, and the erection of machinery; and he may occupy national lands, taking from them the timber and material he needs for construction; but it is understood that Jewell obliges himself to excavate a well on each of the estates adjoining the Gil Gonzalez River, which, up to the present moment, are using the waters of the river and which may be deprived of this right by consequence of their being disposed of for this enterprise.

Fifth. During the term in which Jewell conserves the right of exploitation, he will have the privilege of importing free of any Government or municipal taxes or duties all the machinery and fixtures he needs for said enterprise.

Sixth. No authority can hinder the execution of the work of the undertaking. It is understood, however, that Jewell obliges himself to repair any

alterations he may make in the streets and roads for the location of pipes or in the construction of channels in such a manner as will not disturb the traffic on them.

Seventh. The Government will have the right of examining through its confidential agents the construction of the dams and any other work the defects of which might cause damage to the public, and in case that Jewell should continue to exploit the enterprise after the first thirty years referred to in this contract, then the Government shall have the right of examining the accounts whenever it deems convenient.

Eighth. Jewell may organize a company for the execution of this contract.

Ninth. In order to guarantee the fulfillment of this contract, Jewell binds himself to deposit in the general Treasury $2,000, at the latest, six months from the date of the ratification by Congress. These $2,000 will be returned to him as soon as the selling places of the water are established at Rivas and Potosi.

Tenth. Any question that may arise between the Government and Jewell relating to interpretation shall be subjected to the decision of two arbitrators, one to be appointed by either party, who, before giving their opinion on points in litigation, shall appoint a third in case of non-agreement. The decisions of the arbitrators or of the third in this case is irrevocable.

The arbitrators shall be appointed within six months counting from the day that either party in writing declares to the other the want of agreement upon the point in discussion. If either of the parties allows the term indicated to expire without appointing his arbitrators, the opinion and claim of the other shall be taken as prevalent.

Appendix D.

THE MINING CODE OF NICARAGUA.

(February 11, 1876.)

TITLE I.—*Preliminary provisions.*

SECTION. 1. The mining industry has for its object the working of all deposits of metallic ores, or of coal and combustible substances, salt, and precious stones, whatever the form may be in which they are found either on the surface of the ground or under it.

SEC. 2. The character of mines and mining works shall be given, under the provisions and for the purposes of the present law, to only those undertakings which have for their object the extraction of any of the substances named in the preceding section, whether by excavating pits, or making subterraneous galleries, or by resorting to any mining process or method in use either at Nicaragua or abroad, and in permanent establishments.

SEC. 3. All deposits of mineral substances which can not be classified under any of the four heads mentioned in section 1, whether they belong to the class of earthy substances, as siliceous and building stones, lime, or chalk, or to the class of ornamental stones, as serpentine, marble, alabaster, porphyry, &c., as well as the different kinds of clay, and other materials, shall be of common use if found on grounds which do not belong to any private individual or company, or the private property of the owner of the soil if found on private grounds.

Notwithstanding this provision, when the substances herein referred to can be made use of for the manufacture of earthenware, or of crockery, glass, crucibles, and refractory bricks, or for any other industry, or for constructions in which the public is interested, then and in that case the working of these deposits may be made the subject of a concession by a government, even if they are in private lands; but sufficient guarantee shall be previously given to the owner of the said lands that he will be properly indemnified.

TITLE II.—*Of the ownership of the mines, and the manner in which private parties can acquire it.*

SEC. 4. The ownership of the mines, such as they have been defined in section 1, belongs exclusively to the nation; but it can be transferred to private parties, in the manner and under the conditions which the present law establishes.

None therefore can be allowed to work a mine, even if situated within his own grounds, except by permission of the competent authority issued in the shape of a concession, or adjudication.

SEC. 5. A concession is the formal adjudication or granting of a mine to some person or persons who had legally asked for it. It gives the said person or persons full authority to do all kind of mining work within the area which it shall describe.

SEC. 6. The concessions shall be granted by the competent authority to any person or persons capable, under the general provisions of law, to enter into any binding obligations, upon application made either by the said person or persons, or by a duly accredited representative or attorney of the same, and after all the requisites established in Title XVII of the present code are duly fulfilled.

SEC. 7. Concessions granted in pursuance of the provisions of this code shall be deemed to be for unlimited time, and they shall transfer to the grantee the full ownership of the mine to which they refer. The grantee can, therefore, from the date of the concession, dispose freely of the mine and of its yield, and transfer or convey the one or the other in favor of whomever he may be pleased, by the same methods and in the same manner as are usual and allowed by law for the conveyance and transfer of any other kind of private property; but the original grantee, as well as his successor or assign, are bound under all circumstances to work the mine in such a manner as is established by the present code, since otherwise the said mine shall become liable to forfeiture and denouncement by other parties, when so provided by the same.

SEC. 8. No especial concession shall be required to work auriferous sands or the iron deposits called of *aluvión* or *transportación*, or the other mineral products of rivers and placers, except in case that the work to be done requires an expense of more than one thousand dollars and the establishment of a permanent shop. In this case the deposit, whatever it is, shall be deemed to be a mine, and shall be subject to adjudication or concession in the usual form.

* * * * * * *

SEC. 10. The slag and other refuse of abandoned smelting establishments shall be also subject to the provisions of section 8, except when they are found in private grounds, in which case they are the private property of the owner of the grounds.

SEC. 11. The tailings and the ground of an abandoned mine are to be considered as an integrant part of the same mine, and shall in no case be either denounced or granted separately or independently.

SEC. 12. No mine concession shall ever be granted without the applicant first ascertaining which is the vein to be worked and which the metal or metals to be extracted from it, and showing besides that there is ground enough to constitute a mining property.

SEC. 13. Every person capable under the law to enter into binding contracts shall be able to undertake discoveries of mines, either in common grounds or in grounds belonging to private parties, and to apply for the concession of the mines found, or take advantage of the productions which are declared to be of common use. The same shall be the case in regard to the denouncement of the place whereon the mining buildings should be erected, or of the waters to be used for moving the machinery; but in both cases especial attention is to be paid to the fact that neither the building lot nor the waters exceed the limit established by law.

In consequence of these provisions, no owner of land, whether a private individual or corporation, can prevent, within the limits of his property, any search from being made, or any washings, rewashings, placers, or any other deposits spoken of in sections 8, 9, and 10, from being taken advantage of, or mining and smelting establishments from being created, or roads or other ways of communication from being constructed, or any other works for the permanent service of the mines from being made. The owner is entitled, however, to such indemnification as is proper for the occupation of his land, as well as damages.

SEC. 14. Mines are real estate; so are also all the buildings, machinery, implements, animals, and everything elsè inherent to the proper working of the mine. The ores themselves and the provisions stored at the mine shall be deemed, however, personal property.

SEC. 15. The smelting and reducing establishments and their appurtenances of all kinds are also real estate. The same character shall be given to the washings, rewashings, tailings, slags, and refuse heaps, when establishments of permanent character have been erected for their proper working and reduction.

SEC. 16. Mines, when conceded in the proper form of law, are pieces of property entirely different and independent from the soil in which they are found, and can therefore be sold, or conveyed, or transferred separately. They are also capable of being mortgaged, without prejudice to other mortgages placed or to be placed upon the soil.

SEC. 17. Mines are not liable to condemnation for public use. Should it happen that the soil in which the mine is found is taken in that way from its owner, the labors of the mine shall never be suspended for that reason, nor shall the owner of the mine be deprived of his mining property or of the buildings and other establishments which are necessary for his labors.

SEC. 18. Mines and smelting and reducing establishments shall enjoy no more privileges and exemptions than those established in the present code.

SEC. 19. No sale, either of a mine or of a part thereof, made by competent persons, and with all the formalities of law, shall be ever set aside or rescinded, for alleged hidden defects, or for gross injury (*lessio*), or for other reasons, except fraud if satisfactorily proved.

SEC. 20. Authorization can be given to the owners of either a mine, or of a reducing or smelting establishment, to take advantage, subject to the provisions of law, of the waters of some river or water course running in the neighborhood of their property, and dig a canal, or build a dam for the purpose of utilizing said waters. But that authority shall never be given, if through the digging of the said canal, or the building of the said dam, some injury is inflicted upon some neighboring town, or its agricultural interests, or upon some other establishment of the same locality, or if the navigation of the river, or the defense of some fortified place, is in any manner impeded. Under all circumstances the power to grant this authority is especially reserved to the supreme Government, which shall act in each case according to its discretion, upon the merits of the evidence filed by the applicant, and the report of the mining authority of the respective district.

SEC. 21. The possession of a mine, in good faith, for the uninterrupted period of ten years, shall be sufficient, if accompanied by actual work, done in exact compliance with the provisions of the present code, to secure the lawful ownership of the same, even if the original title has some defect. But the possessor of the mine shall be bound, upon the statement of these facts and the proof thereof, to apply for a new title, which will then be perfect, within the time which the mining court, or any other competent authority of the locality may designate. The failure to secure the new title, within said time, shall entail the forfeiture of the mine.

The period of ten years, spoken of in this section runs against all persons, and can not be suspended for any of the reasons mentioned in article 2509 of the civil code. Mere tenancy is not sufficient, however, to give foundation to a claim of acquisition of the mine, under the present section.

SEC. 22. The ownership of a mine can be also acquired through adverse possession and compliance with the provisions of this code, for only the period of five uninterrupted years, when it was conveyed to the possessor through any of the means established by law for the transfer or conveyance of private property, and he has held it in good faith. These five years also run against all persons and can not be suspended, for any of the reasons referred to in the foregoing section.

SEC. 23. No application for the concession of a mine, or a smelting establishment, within the limits of a town, or city, shall be ever favorably considered, except under special act of the legislative power, or of the executive if expressly authorized to do so, if through the said concession some injury may be sustained by the principal buildings of the said town or city, or some other grave harm of a similar character may be caused.

TITLE III.—*Persons who are legally competent to engage in mining enterprises.*

SEC. 24. The exercise of the mining industry, under the provisions of the present code, is perfectly free in this Republic, and all persons, without distinction of nationality, age, sex, or conditions, are free to engage themselves in this business, provided that all transactions and contracts which they may make or enter into are made and entered into in exact compliance with the general provisions of law, subject, however, to the exceptions set forth in the following section.

SEC. 25. The following persons are expressly forbidden either to acquire or to work mines, namely:

Generally and under all circumstances, the members of both sexes of any regular monastic order.

Only within the district in which they exercise their respective functions, the curate of the parish, the prefect, judge of first instance, and military governor of the department or district, the justices of the supreme court, the clerks of the mining courts, and the mining engineers in the service and in the pay of the Government.

All the said persons, except the members of the religious orders, shall be allowed to retain possession, and engage in the work of the mines which they acquired before entering into the fulfillment of their respective duties.

TITLE IV.—*On the discoveries.*

SEC. 26. Whoever discovers a new vein, pit, or deposit of metal, or of any other of the substances indicated in section 1, is entitled to a concession, which shall be granted upon the proper application, if filed, within thirty days immediately following the discovery. The discoverer who does not fulfill this requisite becomes liable to lose his right, if some other applicant comes and denounces the mine after the thirty days have elapsed.

SEC. 27. The finders of metallic substances, even in veins or deposits which have been excavated or searched before, shall also be considered discoverers, if the search or excavation made does not exceed twelve yards in vertical depth, and if the desposit itself has not been made already the subject of a concession.

SEC. 28. When two or more applicants claim to be the discoverers of one and the same vein or deposit, the concession shall be made in favor of the one who proves to have been first in finding the metal, even if the others had previously searched for it. In case of doubt, the one who first filed the application for the concession shall be declared to be the discoverer.

SEC. 29. If the discovery is made in grounds absolutely new, in which no other

mines had been before worked, the discoverer shall be entitled to three mining properties, which he can take either contiguously to each other or separately, on the vein or deposit which he may choose, and also to an additional mining property on each vein which he may discover at the same time. But this additional adjudication shall not be made except in case that it is asked within ten days subsequent to the filing of the application relative to the principal deposit.

SEC. 30. For the purposes of the foregoing section, a ground or mineral hill shall be considered absolutely new when at least at fifteen hundred yards from another ground or hill in which there are mines either actually worked, or abandoned after having been worked, to the depth of twenty-five perpendicular yards.

SEC. 31. The discoverer of a vein or deposit in some hill or ground already known to be mineral, or formerly worked, shall be entitled only to two mining properties, contiguous or separate, which shall be granted to him upon the proper application.

SEC. 32. Applicants for the concession of new mines in some veins or deposits already worked in some sections or parts, shall not be considered discoverers, and shall be entitled only to one mining property.

SEC. 33. All the privileges of discoverers of new mines in new hills or grounds shall also be granted to the restorers of old mines absolutely abandoned for over ten years. They shall, therefore, be entitled to three mining properties, either contiguous or apart from each other, on the vein or deposit more suitable to them, and to an additional property on each of the other veins which they may be willing to work; but they have to show previously what kind of work they propose to do.

SEC. 34. Except in the cases provided for in the preceding sections, applicants shall never be granted more than two contiguous mining properties upon the principal vein of the deposit; but they can acquire as many properties, contiguous or otherwise, as they may desire by purchase, donation, inheritance, or any other legal manner of conveyance.

Nevertheless, when the applicant is an association or mining company legally constituted under a public deed executed in due legal form at a date previous to that of the application, it shall be entitled, merely because of its being such an association or company, to three additional mining properties, besides enjoying all other privileges of sections 29, 31, 33, if it is a discoverer or proposes to restore some abandoned mines.

SEC. 35. Such applications as appear signed by two or more parties without a deed of partnership executed in the form referred to in the foregoing section being appended to them, can not secure the privileges granted to companies, and shall be considered only as individual applications.

SEC. 36. It shall be in the power of everyone to denounce, without having to pay anything for it, any mining place or establishment formerly worked but abandoned. This can be done even if the walls, partitions, chimneys, furnaces, dwelling houses, etc., still remain standing, but it will be absolutely required that neither roofs, nor machinery, nor implements, nor any other thing of actual service is found at all in the place. Should they be found, notice of the denouncement shall be served upon the owner of the mine or establishment, and four months' time shall be given to him either to resume work at his property, or sell it, or lease it. If he fails to do so within the appointed time, the concession shall be made in favor of the denouncer, upon his application to that effect and his promise to pay for the value of all personal property which may be found at the place, the value to be fixed either by agreement between him and the owner, or by appraisement by experts.

TITLE V.—*Of the mining properties.*

This title contains 16 sections, providing for the manner of measuring the mining properties according to the different inclination of the veins or deposits. A mining property in Nicaragua is a prism of indefinite depth or height, and rectangular bases. Two sides of this rectangle are 200 Castilian yards, measured all along the line, or direction of the vein. The other two vary according to the inclination, from 112½ yards to 200 yards. In coal mines and deposits of nitrates and similar substances, the bases of the prism shall be square, 800 yards each side. In placers, washings, etc., they shall also be square, but only of 400 yards each side. The demarcation of the mining property, in the case of precious stones, is left to the discretion of the authorities, according to the circumstances of the case.

Each mining property is a unit, absolutely indivisible. It can not be sold, or conveyed in part in any way whatever, nor can it be united or annexed to a contiguous property. If the original concession embraces two or more mining properties, said properties can be separated from each other with permission of the authority.

TITLE VI.—*Of the surpluses.*

This title contains 3 sections regulating what is called *demasías*, or surpluses. A *demasía* is a portion of free unoccupied ground between two or more mining properties not large enough to constitute a mining property by itself. These surpluses can not be granted to strangers, except in case that the owners of the neighboring mines refuse to ask for them.

TITLE VII.—*How the mines must be worked and how the concessions thereof are forfeited.*

This title contains 34 sections which provide for the manner in which mines must be worked at Nicaragua, according to the rules and methods accepted and in use either in the country or abroad.

They establish also several rules intended to secure the safety of the mines, and to preserve the health of the laborers, prevent accidents, and other similar purposes.

The cases of forfeiture of the concession are the following:

1. When the possessor of a mine fails to make his title perfect, as provided by section 21.

2. When the person or persons in whose favor the concession of a mine is made violates for the second time the provisions of this law relative to the indivisibility of a mining property. (Section 45, 46, 47.)

3. When no proper precautions are taken, as provided by section 60, to make new galleries, or other works endangering the safety of the mine. (Section 60.)

4. When the works undertaken to make a *socavón* (see Title VIII) are finally abandoned. (Section 97.)

5. When the monuments marking the limits of each mining property are maliciously removed by the grantee. (Section 215.)

6. If the mine is not properly drained, or allowed to cave in, within the time given the grantee to do the necessary works of restoration. (Section 250.)

7. When the time fixed in the permission to make excavations, or *socavones*, is allowed to pass without the work being done.

Superior force, or fortuitous accident, are declared to be (section 83) the following:

1. Famine, pestilence, or war in the mining district.

2. Excessive rains, or repeated shocks of earthquakes.

3. Express order of the authority directing the work to be stopped or suspended.

4. Deeds of actual violence preventing the miner from using his rights, or doing his work properly.

TITLE VIII.—*On socavons.*

SEC. 90. *Socavon* is a narrow subterraneous passage, of larger dimensions than the ordinary galleries, horizontally excavated, and intended either for the restoration of an old mine long since abandoned, in which case it is called *socavon de restauración*, or for the draining of flooded mines, or the extraction of

earth and rubbish from those which were caved in, in which cases it is called *socavon de habilitación*, or finally for the simple purpose of finding out new veins, or deposits, in which case it is called *socavon de exploración*.

The rights and duties of the diggers of these galleries depend upon the purposes for which the digging is intended.

SEC. 91. All ditches and excavations made for the purpose of draining flooded places, or of changing the river beds, or making them deeper, and the works done to discover deposits of gold, quicksilver, coal, or other mineral substances shall be deemed to be, in so far as the rights and duties of the excavators and doers thereof are concerned, of the same nature as the *socavons*.

SEC. 92. None of the privileges granted by this present law to the mining works referred to in the preceding sections shall be enjoyed, if said works are undertaken without permission of the authority, and are not carried out in strict compliance with the provisions of this code.

Section 93 and the following up to section 109 inclusive, continue to regulate in detail the matter of these tunnels or subterraneous galleries, the manner in which they must be made, and the duties and rights of those who undertake to build them.

These 17 sections form the matter of titles IX, X, and XI of the present Code.

TITLE. XII.—*On the mines belonging jointly and severally to several persons, and on those which are the property of a company.*

This title, the purpose of which is sufficiently indicated by its heading, contains 18 sections, and needs not to be translated.

TITLE XIII.—*Rules for the proper furnishing and use of water.*

Section 129 and the following, up to section 142, regulate in detail what is to be done to furnish water to the mines and to prevent rivers and water courses and all streams used for drinking purposes and for the supply of cities and towns from being spoiled or poisoned through mines or mining works.

TITLE XIV.—*On timber, whether belonging to the State or to private persons.*

This title, which contains twelve sections, from 143 to 154, after providing for the right of the grantee of a mine to use the timber found in the neighboring forests and woods, either for building purposes or for fuel, regulates this right, and provides what is necessary to avoid abuse.

TITLE XV.—*On the "aviadores" (money lenders).*

This title, which begins in section 155 and ends in section 168, regulates the matter of the *aviadores*, who are defined "those persons who furnish money to the miner to carry on his mining work." These loans are to be witnessed by public deed, and made with certain formalities, and when so made enjoy certain privileges and preferences. One of these privileges is the faculty which the aviador has to appoint an *interventor* (a kind of receiver or inspector), through whom all the business of the mines is to be transacted.

TITLE XVI.—*On the interventores (receivers).*

This title embraces from section 169 to section 178, and gives rules in regard to receivers and their rights and duties.

TITLE XVII.—*On the manner of making application for the concession of mines, and the course of proceedings to be followed for their concession and survey.*

SEC. 179. All applications in regard to mines intended either to make a denouncement or to ask for their concession, or merely for their survey, are required to be in writing and authorized by the signature of the applicant himself or of his duly accredited representative. The application shall be written in stamped paper of the 4th class, and in case that it is signed by an attorney a copy of the credentials or special power of attorney, duly authenticated by a notary, justice of the peace, alcalde, prefect, or judge of first instance shall be appended to it.

SEC. 180. If the applicant can not write his name, some other person may sign for him the petition, at his request, and before the same notary, alcalde, judge, or prefect who takes cognizance of the matter.

SEC. 181. Applications which have for their object the denouncement or concession of mines, as defined in section 1 of this code, or of places or locals which are desired for the purpose of starting within their limits some reducing or smelting establishment, or deposits of timber, or reservoir, shall necessarily be filed before the chief executive mining authority of the department to which the mine or the locality referred to belongs.

SEC. 182. When, owing to great distance or to some other reason of the same character, the application can not be filed before the said chief executive mining authority of the department without the applicant being subject to grave injury, the latter shall be permitted to hand his application to the inspector of mines of his own district, and, if there be none, then to that of the nearest one; but this permission is granted only for the purpose that the application be endorsed as

provided in section 189, before two witnesses, without relieving in any way whatever the said applicant from the necessity of repeating his application and filing it directly before the chief departmental mining authority within ten days, to be counted from the date of the said endorsement.

SEC. 183. All applications shall set forth, in addition to the peculiar features in each case required, as provided by the present code, the following:

1. The name, residence, and occupation of the applicant.

2. The matter or thing which is applied for, giving its name, if there is any, and describing it as accurately as necessary to distinguish it perfectly from all others.

3. The mineral district, hill, ground, or place where the thing applied for stands.

SEC. 184. Applications made in the name of a company shall necessarily be accompanied by the deed of partnership. In such cases as are referred to in section 182 the filing of the said deed may be deferred until the moment in which the second application is filed within the ten days therein granted.

SEC. 185. The application shall set forth also the place and the date, written out, in which they are filed.

Section 186 and the following, up to section 189, provide that applications which are not drawn and filed in exact compliance with the above rules shall have no effect at all, and that all applications shall be endorsed, stating the day and hour in which they are filed or handed to the inspector of mines (section 28), in order to settle the question of priority.

Section 190 and the following up to section 219 establish rules in regard to the discoveries of mines and the surveys of the mining properties. The applications made on the ground of discovery shall set forth whether the mine discovered is found in grounds already known as mineral, or entirely new in this respect, and also the nature of the ore or mineral substance of which the mine consists, and the form, class, and location of the vein or deposit. They must state also the number of mining properties which the applicant desires to have, and if the land or soil belongs to private parties the name and residence of the owner are to be given. In all cases the applicant shall say what is the name which he proposes to give to the new mine, and what are the names of the neighboring ones.

When the land belongs to private parties, the applicant must file a bond to secure the payment to the lawful owner of such indemnification as may be proper under section 13.

Upon the filing of the proper evidence in regard to the existence of the mineral deposit, and after the proper publication for sixty days (section 194), in order to find out whether any opposition can be lawfully made to the granting

of the application, permission shall be given to the latter to make what is called the *labor de ordenanza*, and consists in a gallery or pit of sufficient length or depth to show well the nature of the vein or deposit, its inclination and direction, and the nature of the ores or other substances which constitute the mine.

If no opposition is made, or if the opposition is overruled, the opportunity presents itself for a survey of the mining properties to be granted the applicant.

If there is opposition the question shall be settled judicially, appeals as well as all other legal remedies being given against the decision, whenever proper under the general provisions of law.

The surveys are to be made by official engineers, or experts, with intervention of the authority, and upon notice given to the neighbors, and publication in the newspapers and otherwise.

Monuments of brick or limestone, substantially built and at least one yard high, are to be erected to mark the limits of each mining property. These monuments must be kept always in good condition of repair.

SEC. 219. As soon as the survey is finished, the formal concession of the mine or mining properties shall be made in the name of the nation in favor of the applicant, who shall be at once put in possession of his property.

The title or patent shall consist of an authenticated copy of the whole record.

TITLE XVIII.—*On the alinderados or claimants of adjoining mines.*

Alinderados, from the Spanish word *linde*, which means boundary, are those who ask for the concession of a mining property bordering upon some other already granted.

TITLE XIX.—*On the opposition to the claims of discovery, and the course of proceedings to be followed in such cases.*

This title, which embraces from section 232 to section 241, provided that no opposition to claims of discovery shall be admitted if not made within 60 days given for that purpose in the publication provided for by 194. The proceedings shall be conducted before the civil court of the district if the mining authorities can not find some way of causing the interested parties to reach an agreement.

TITLE XX.—*On denouncements.*

SEC. 242. Denouncements are those applications intended to cause the rights or title to a mine or mining property to be adjudged forfeited, and granted or transferred to the denouncer.

Section 242 and the following up to section 255 regulates the matter of these denouncements, according to the nature of the denounced property, and fixes the manner in which they can be made and considered in justice.

TITLE XXI.—*On the opposition to denouncements.*

This title, which runs from section 255 to section 269, provides what is necessary to enable the owner of the denounced property, or his representative, or the tenant, lessee, or any other person having a right to that property, to appear before the authority and make opposition to the denouncement, and to cause this opposition to succeed upon the proper evidence. Section 259 says that sufficient ground for the opposition will be found: (1) In the fact that the allegations made in the denouncement are incorrect; (2) in the existence of some law or legal provision which excepts the mine or mining property from being denounced; and (3) in the fact that a petition for the concession of the denounced mine or property has been previously made.

The other sections regulate the proceedings which in these cases of opposition are to be conducted before the civil courts.

TITLE XXII.—*On the denouncement of surpluses.*

Surpluses, or *demasias*, as defined in Title VI of this code, are capable of denouncement as all other mining properties, and section 270 and the following, up to section 285, which form the present title, explain the manner in which this particular denouncement is to be made, and the requisites to which it is subject.

TITLE XXIII.—*On the possession ad interim of the mines.*

This title, which embraces from section 286 to section 296, regulates what is called in Nicaragua the possession *ad interim* of mines or mining properties.

Mines are considered such an important element of prosperity and wealth for the country as to render all suspension or discontinuance of their work undesirable. So it is that even in case of litigation, the mine or mining establishment is to be kept open and at work, under some one who possesses it *ad interim*. The rights and duties of this possessor are the subject of this title.

TITLE XXIV.—*On the smelting and reducing establishments and the manner of denouncing them and securing their concession.*

SEC. 297. No other works or establishments shall be classified for the purposes of the present law under the head of smelting or reducing establishments than the following:

1. Furnaces for the calcination, toasting, or melting of the ores, and the extraction of the metal which they contain, and the engines intended for the separation of the same metal through washing or blowing processes.

2. The establishments intended for the working of saline substances.

SEC. 298. The establishments in which metals, after being extracted from the ores, are manufactured for commercial or industrial purposes, are private establishments, not subjects to the provisions of the present law.

The balance of this title (sections 299 to 315) is devoted to establish rules in regard to the proper use of the right of denouncing abandoned establishments of this kind, and the requisites which are necessarily to be complied with in the applications filed for that purpose. Section 304 says that said applications have to set forth: (1) The name of the establishment and the place where it is situated; (2) The name of the last owner, or possessor, of the same establishment, and that of the owner of the land in which the latter is situated; (3) The time during which the establishment has been left abandoned, and whether any buildings, machinery, water works, or any other work, capable of being used (see section 36) has been left in it; (4) The nature of the substance for the extraction or preparation of which the establishment was intended; (5) The name of the mine whose ores are to be worked in the establishment, if the applicant owns such a mine, and the mineral district in which it is situated; (6) The kind of fuel the applicant proposes to use in the establishment, and the locality from which he will get his supply; (7) And finally, the water which the applicant proposes to use, and the area of ground which will be needed for the proper work of the establishment.

TITLE XXV.—*On the steps to be taken to obtain permission to open socavons, or subterraneous galleries, in old mines.*

SEC. 316. Whoever proposes to put again in working condition some old abandoned mines, by digging socavans, or subterraneous galleries, through which the earth, water, or other obstructions may be removed, shall have to file a petition, written on stamped paper of the fourth class, setting forth the following:

1. The name of the mineral district, and the time during which no work has been made in it.

2. Where any mine is or is not worked in that locality.

3. The name of the mine, or mines, which the applicant proposes to put again in working condition, and such description of the same as necessary for their proper identification.

4. The kind of metal or substance yielded by the mine.

5. The place where the gallery or socavon is to begin, and the extent of ground through which it has to run.

6. The dimensions of the work to be done, and its estimated cost.

7. The depth of the gallery in relation to the highest *boca-mine*, or first opening made in the vein, which is to be worked again.

8. The area of ground which will be required to do the work properly.

9. The name and residence of the owner of the land in which the mine is situated, if the said land is not public.

SEC. 317. A plan or map of the ground, clearly showing the places where the work is to be done, shall be filed with the petition.

Section 318 and the following, up to section 334, establish the course of proceedings to be pursued until obtaining permission to do the work, and how the opposition, if any, to the said work is to be considered and disposed of by the authorities.

TITLE XXVI.—*On the applications for concessions of deposits of earthy substances, and the steps to be taken to obtain said concessions.*

SEC. 335. Whoever may desire to work a deposit of earthy substances, found on private lands, or to use said substances for some industrial purpose of public use, shall, if the owner of the land refuses to do it by himself, or to consent to its being done by the applicant, file a petition to the chief authority of the department asking for the proper permission, and setting forth the following:

1. The kind of substance which is to be worked, or used. (Samples of the same shall be accompanied.)

2. The industry, work, or manufacture in which the substance is to be used.

3. The name and actual residence of the owner of the land.

4. The fact that the owner of the land refuses to do the work by himself, or to enter into agreement with the applicant upon the matter.

5. The securities which the applicant proposes to give for the payment of the indemnification due to the owner.

6. The area of ground which the applicant desires to have to carry on his plans.

The following sections (336 to 343) establish the rules to be observed in these cases, before granting the permission desired.

TITLE XXVII.—*On the proceeding of opposition to the applications for permission to work deposits of earthy substances.*

This title, as shown by its heading, provides what is necessary for the proper hearing of the owner of the land, in case he should oppose the application to work such deposits, and what steps are to be taken to settle that matter in justice. The title embraces section 344 and the following up to 353.

TITLE XXVIII.—*On the courts of mines and their power and jurisdiction.*

This title explains in detail (sections 354 to 375) the organization of the courts of mines of Nicaragua, the qualifications required to be a mining judge, the powers and duties of the same judges and courts, and their relations with the executive authorities.

TITLE XXIX.—*On the proceedings on mining cases.*

The provisions of this title (section 376 to section 390) mark the course of proceedings to be pursued in all cases of litigation on mining matters, substantially the same as in all other cases of judicial contentions.

TITLE XXX.—*On the mineral districts and their inspectors.*

Section 391 and the following up to section 405 provide for the division of the territory of Nicaragua into mining districts, at the head of which an inspector shall be placed.

The title defines also the duties and the rights of these inspectors.

TITLE XXXI.—*On mining engineers and their duties and faculties.*

SEC. 406. There shall be in every department having within its limits some mineral district a mining engineer appointed by the Government. Such appointment, however, will not be made unless the Government considers that the employment of such an officer is indispensable.

Section 407 and the following up to section 417 provide for the qualifications required to fill this position, the oath of office to be administered to the engineers, their duties, and their rights and authority.

GENERAL PROVISIONS.

This final part of the code, from section 418 to section 431, besides regulating the application of the present code to cases arising out of previous legislation, and repealing the mining ordinances of May 2, 1783, and all other laws and regulations of previous date, contains the following provisions:

SEC. 418. Miners must have their tools and implements marked in such a way as to secure identification; and if anyone should buy them from some laborer, or should take as a pledge for the payment of debts, shall have to pay the double of their value.

SEC. 419. No concession can be made to the detriment of rights previously acquired by other parties, except only in those cases specially provided for in this code.

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Appendix E.

HE MINES OF NICARAGUA—REPORT OF CONSUL NEWELL.(a)

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here append statistics showing the production of the thirteen ıes located in the Chontales district:

Name of mine.	Carat gold.	Ounces to the ton.	Monthly production.
			Ounces.
Juan de Canidad	15	0½	30 to 40
ilonia	16 to 17	0¼ to 0½	100 to 200
Angeles	14	0¼	30 to 40
California	14	0¼ to 0½	30 to 40
Escandalo	15	0¼	150 to 200
ta Elena	17	0¼ to 0½	140
Esmerelda	18	0¾	100 to 200
Pope	19 to 20	0¼ to 0½	100
Chamowo	16 to 17	0¼ to 0½	100 to 150
Tavali		*0¾	200 to 300
		1 to 2	30 to 40
go		0½	50 to 100
	(†)	(†)	100 to 200

ld as follows: "1 castellano ($\frac{1}{160}$ of a Spanish pound) to three-quarters of

obtainable.'

orts, September, 1893.

SEC. 424. All fines imposed in pursuance of the provisions of this code shall be applied to the promotion of the mining industry.

SEC. 426. The sales and transfers of mines and mining properties, smelting or reducing establishments, mining machinery, and all other real property used for or connected with the mining industry, shall be free of the transfer tax named *alcabala.*

The owners of mines shall also be exempted for three years from paying all other taxes, dues, and fees, which may be levied on mines and the mining industry.

SEC. 427. The owners of mines, their employees and laborers, are exempted from military service, unless when voluntarily rendered, or when required to preserve the independence and liberty of the Republic.

Appendix E.

THE MINES OF NICARAGUA—REPORT OF CONSUL NEWELL.(a)

I desire to call attention to the rich mineral zones that are now being operated in the Republic of Nicaragua.

Besides the vast mountainous system, extending to the Atlantic, rich in minerals, but yet unexplored, there are the auriferous mineral districts of New Segovia and Chontales, which to-day produce the gold ore that is exported from this Republic.

The mineral district of La Libertad, in Chontales, is the most ancient, as well as the best developed, in the country, though the machinery is as yet of the most primitive character. The incomes of the mines vary from half an ounce to 2 ounces per ton and the quality of the gold from 14 to 20 per carat.

I here append statistics showing the production of the thirteen mines located in the Chontales district:

Name of mine.	Carat gold.	Ounces to the ton.	Monthly production.
			Ounces.
San Juan de Canidad	15	0½	30 to 40
Babilonia	16 to 17	0¼ to 0½	100 to 200
Las Angeles	14	0¼	30 to 40
La California	14	0¼ to 0½	30 to 40
El Escandalo	15	0¼	150 to 200
Santa Elena	17	0¼ to 0½	140
La Esmerelda	18	0¾	100 to 200
El Tope	19 to 20	0¼ to 0½	100
El Chamowo	16 to 17	0¼ to 0½	100 to 150
El Javali	.....	*0¾	200 to 300
San Miguel	.....	1 to 2	30 to 40
Santo Domingo	.....	0½	50 to 100
San Gregorio	(†)	(†)	100 to 200

*The consul reports this yield as follows: "1 castellano ($\frac{1}{160}$ of a Spanish pound) to three-quarters of an ounce per pound" (*sic*).

†"Ounces per ton and carat not obtainable."

a United States Consular Reports, September, 1893.

The molinete system, already mentioned, is the same as that known in Mexico as the arastra. The arastra is composed of a circular granite-paved bottom, from 6 to 20 feet in diameter, surrounded by a wooden inclosure over 2 feet high, with a vertical wooden shaft in the center provided with two or more projecting arms, to which mullers composed of large blocks of granite are attached by means of chains. This primitive, but effective, machinery is operated by mules when water power is not available. The mullers make from six to ten revolutions per minute, with a capacity of grinding from 1½ to 2 tons of rock (the fragments being broken as small as a hen's egg or less) in twenty-four hours. Of the arastra, Mr. Kustel, a high authority, writes as follows:

When in motion, the arastra is charged with 200 pounds of ore, with some water. One-quarter of an hour afterward the balance of the whole charge, from 400 to 500 pounds, is introduced. As soon as the ore is turned into mud 1 or 2 ounces of quicksilver are pressed through a dry cloth over the thick pulp.

A sample is taken from time to time with the horn spoon, washed and examined. When free gold is perceived, after the amalgamation has gone on for some time, some more quicksilver may be added. The first charges require a little more quicksilver. After four or five hours the pulp is diluted with water and discharged.

The next charge is treated in the same way, and so on till 100 or 150 tons are worked through. The quicksilver must be used always in proportion with the gold—1 or 1½ ounces to 1 ounce of gold. The amalgam imbeds in the crevices of the bottom and must be always dry.

The use of too much quicksilver makes the amalgam thin, causes an imperfect amalgamation, and a loss in quicksilver, which is often found beneath the bottom rock.

When the reducing and amalgamating process is finished the slime is washed off and the amalgam cleaned up, squeezed, and retorted.

To Mr. José D. Gamoz, of Managua, editor of the El Termometro, I am indebted for much of the valuable data entering into this report.

WILLIAM NEWELL, *Consul.*

MANAGUA, *July 13, 1893.*

Appendix F.

COMMERCIAL DIRECTORY OF NICARAGUA.

ACOYAPA.

Import and export merchant.
Sevilla, Cirilo.

BLUEFIELDS.

Importers.
Brown & Harris.
Levy & Levis.
Sargent, J. I.
Simmons, John H.

Merchants, general merchandise.
Clerici, A.
Ebensperger & Co.
Friedlander, J.
Ingram, H. Clay.
Sing, C. M.
Thomas & Nephew, J. O.
Weil & Co., S.
Wilson & Belanger.

Mining bureau.
Keuhn, Rolando.

BUENOS AIRES.

Retail general merchants.
Chamorro, Doroteo J.
Salamanca, Gregorio.

CHICHIGALPA.

Machinery.
Deshon & Pineda.

CHINANDEGA.

Bankers.
Callejas & Baca.

CHINANDEGA—Continued.

Druggists.
Baca, Francisco.
Granera, Inocente.
Navarro, Angel.
Tijerino, Toribio.

Import and export merchants.
Callejas, Juan F.
Callejas, Santiago.
Gasteozoro, T. M.
Gorlero, Juan.
Gorlero é Hijo.
Morazán, Francisco.

Machinery.
Baca, Manuel Antonio.

Retail general merchants.
Navarrete Hnos., Ignacio.
Navarrete Hnos., Sinforosa.
Navarro, Cruz.
Reyes, José.
Salinas, Juan.
Sansón, Gertrudis y Estefanía.
Tijerino Hnos.

Silversmith.
Meza, Enrique.

Wholesale druggist.
Osterhout, Paul, M. D.

CHOLUTECA.

Import and export merchant.
Lagos, César.

CHONTALES.

Importer.
Gutierrez, Eliseo.

CORINTO.

Commission merchants.
Brenes, Pedro.
Monterrey y Co., Jesús.
Palazio, L.

Commission merchants and exporters.
Palazio & Co., L.
Wasmer & Lutzner.

Import and export merchants.
Jericho, Guillermo.
Palazio, Henry.
Palazio & Co., E.
Valle, Narciso.
Vargas, Francisco.
Wassmer & Von Lutzow.

Retail general merchant.
Valle, Salvador.

GRANADA.

Banks and bankers.
Arana, Salvador.
Banco de Nicaragua.
Chamorro y Zavala.
Morales, Santiago.
Urbine, Manuel.
Vargas, Juan.

Boots and shoes.
Romero, Miguel.

Commission merchants.
Espinoza, G.
García & Co., José María.
Martínez, Abraham.
Traña, J. Luis.

Druggists.
Alvarez, F.
Barrios, Teófilo.
Guerrero, Alfonso.
Guzmán, Horacio.
Guzmán, V.
Lacayo, Alberto.
Morales, José María.
Pasos, Agustín.
Urtecho, Juan Ignacio.
Vargas, Pedro R.

GRANADA—Continued.

Exporters coffee, hides, and dyewoods.
Argüello, Luis.
Argüello, Manuel.
Argüello, Mariano.
Barillas, Benjamín.
Barillas, Carlos.
Castrillo, David.
César & Chamorro.
Chamorro & Bro., Fernando.
Cuadra & Sons, Virginia.
Derbyshire, Fred.
Espinoza, Gonzalez.
Gomez & Sons, Josefa.
Lacayo, Alberto.
Lacayo, Delfino.
Lacayo, Fernando and Manuel.
Lacayo, Pánfilo.
Lacayo & Bro., Alfredo.
Morales, Santiago.
Pellas, A. E.
Sandoval, Benjamín.
Vargas, Juan.
Vaughan Bros.

Hatter.
Palacio, Casimiro del C.

Import and export merchants.
Argüello, Luis.
Argüello, Mariano
Avilés & Co.
Avilés, Mercedes.
Bermudez, J. Ignacio.
César & Chamorro.
Chamorro, Adela.
Chamorro, Alejandro.
Chamorro, Dionisio.
Chamorro, Fernando.
Chamorro, Pedro J.
Chamorro, R. & F.
Chamorro, Salvador & Co.
Chamorro & Zavala.
Chesnay, Emilio.
Collado, Guillermo.
Coronel, Manuel Antonio.
Costigliolo, J. S.

GRANADA—Continued.

Import and export merchants—Continued.

Cuadra, E. & S.
Cuadra é Hijos, Virginia de.
Downing, A. A.
Espinoza, Sebastián.
Fiallos, Mariano.
Gousain, Hilario.
Lacayo, Carlos A.
Lacayo, Fernando & Manuel.
Lacayo, Lisimaco F.
Lacayo, Pastora V. de.
Lacayo & Co., Roberto.
Lacayo, Saturnino.
Lacayo & Co., Manuel.
Lacayo & Hno., Alfredo.
Lanuza & Co.
Lugo, Alberto.
Marenco, Constantino.
Martinez, Bernardo.
Martinez, Dr. J. J.
Martinez é Hijos, Esmeralda de.
Mejía, hijo, Luis.
Morales, Celedonio.
Morales, Herculano.
Morales, Santiago.
Morales, Tránsito.
Marenco, Federico.
Ocón, Trinidad.
Pasos & Co., P.
Quadra, Ezequiel y Salvador.
Quadra, Vicente.
Quadra é Hijos, V. de.
Quadra y Hnos., Manuel.
Rivas, Asunción P.
Rocha & Co.
Rutishauser & Co., Antonio.
Selva, Hilario.
Tefel, Teodoro.
Ubago Hnos.
Vargas, Juan.
Vargas, Justiniano.
Vaughan Hn s.
Vela, Serapio.
Vivas, hijo, Rosario.
Ximenez & Co., Torres.

GRANADA—Continued.

Import and export merchants—Continued.

Zavala, Joaquín.
Zelaya & Co., Victor.
Zequeira, Narciso.

Importers drugs and chemicals.

Alvarez, F.
Barberna, Narciso.
Chamorro, Filadelfo.
Guzmán, Virgilio.
Henriques, Maximiliano.
Lacayo, Alberto.
Lejarez, Dr.
Martinez, Dr.
Monteil, Luis.
Morales, José María.
Pasos, Agustín.
Urtecho, Juan Ignacio.
Vargas, Pedro R.

Importers general merchandise.

Arce, José.
Arellano, Elena.
Arellano, Faustino.
Arellano, Luz.
Arévalo, Narciso.
Argüello, José.
Argüello, Luis.
Argüello, Mariana.
Bendona, Fernando.
César & Chamorro.
Chamorro & Bro., Fernando.
Chamorro & Co., Salvador.
Coronel, Manuel A.
Costiglido & Zavala.
Ferry & Co., Carlos.
Gomez, Agatón.
Lacayo, Hno., Alfredo.
Lacayo, Fernando and Manuel.
Lacayo, Marcelino.
Lezarza, Salvador.
Mejía, Marcos A.
Pasos & Co., P.
Peter & Co., Alberto.
Quadra é Hijos, Virginia de.
Wolff & Co., S.
Ximenes & Bro., Salvador.

GRANADA—Continued.

Photographers.
Alfaro, Bernardo.
Cassinelli, Antonio.
Sansón & Co., Fernando.

Planters, general.
Arellano, Faustino.
Baez, Rito.
Berard, Agustín G.
Costigliolo y Zavala.
Guzmán, Fernando.
Lacayo, Daniel.
Lacayo, Fernando.
Quadra, Vicente y Joaquín.
Zelaya, Leandro.

Planters, sugar.
Costigliolo y Zavala.
Espínola y Ca.

Planters, cocoa.
Arguello, José.
Chamorro Hnos.
Menier, E.
Quadra, V. y J.

Planters of coffee.
Avilés, A.
Bermudez, José T.
Brown Hnos.
Espínola, Francisco.
Lacayo, Daniel.
Lacayo, F. y M.
Lacayo, Tomás.
Román, Desiderio.
Vaughan y Hermanos.
Vega, Juan.

Printers.
Cuadra, J. de J.
Rivas, Anselmo H.
Romero, Miguel.

Retail general merchant.
Bendaña, Fernando.

Silversmith.
Ruiz, Alberto.

Special manufacturers.
Barcenas, J. J., coffee machinery.
Lacayo, Lisímaco, castor oil.

GRANADA—Continued.

Special merchants.
Blen, Adolfo, wines and liquors.
Downing & Hnos., cigars.
Guzmán, Enrique, sugar.
Lacayo, Roberto, woods.
Ortega, Salvador, flour.

Watchmakers and jewelry.
Chamorro, Martín.
Lacayo, José.
Lacayo, Roberto.
Palavacini, Vicente.
Ramirez y Ca., P.
Rios, Felipe.

GREYTOWN.

Banks and bankers.
Banco de Nicaragua.
Hoadley, Ingalls & Co.

Commission merchants.
Nicaragua Navigation and Trading Co.
Pellas, J. A.
Saenz & Co.
Scott & Co., C. D.

Import and export merchants.
Bergmann, J. J.
De Sousa & Co., E. L.
Hatch & Brown.
Mongrio y Aragón.
Pellas, F. A.
Saenz & Co.

Merchants, general merchandise.
Beigmann, C. F.
Cohen, S.
De Souza & Co., E. L.
Enriquez & Smith.
Gosdensk, J.
Hatch & Brown.
Nicaragua Navigation and Trading Co.
Saenz, L. E.
Solomon & Harris.

IMOTEGA.

Importers.
Chavez & Noguero.

JINOTEGA.

Importer.

Cardenal, Cruz.

JINOTEPE.

Druggist.

Zúñiga, L.

Importers.

Espínola, Ramón de, brewing and distilling plant and machinery.

Román & Co., José León, general merchandise and exporters of hides and coffee.

JUIGALPA.

Druggist.

Gutierrez, Eliseo

Retail general merchants.

Baez, David.

LEÓN.

Banks and bankers.

Agüero Coronado de Marín.
Banco Agrícola Mercantil.
Banco de Nicaragua.
Lacayo, Leonardo.
Lacayo, Narciso & Co.
Midence, Justo.
Orosco, Espiridión.
Perez, Manuel.

Boots and shoes.

Aguero, Federico.
Bustos, Antonio.
Delgado, Cipriano.
Gonzalez, Trinidad.
Grijalva, Tomás.
Montalván, Francisco.
Saavedra, Isaac.
Saenz, Antonio.
Salmerón, Atanascio.
Soto y Hno., Rafael.
Zequeira, Alejandra.

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Agustín, John S.
Fiallos, Mariano.

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Arguello, David.
Barrios, Eleodoro.
Castro, Julio.
Herdocia, Rodolfo F.
Hospital, Botica del.
Icaza, Alejo J.
Marín, Basilio.
Midence & Co., importers.
Pallais, Desiderio.
Tellería, Tomás.

Engraver.

Rodas, Rosendo.

Foundries.

Lindo, Pastor.
Osorno, Vicente.
Rocha é Hijo, Josefa.

Hardware and tools.

Ardila, Benito.
Banegas, Gregorio.
Calderón, Trinidad.
Cisne, Leopoldo.
León, Luciano.
Mungua, Salvador.

Hatters.

Cartín, Luis.
Sanabria, Angel.
Santeli, José.
Toruno, Ramón.
Zequeira, Bernardo.

Hides and leather.

Barreto, Desiderio.
Escorcia, Sebastián E.
Granera, Felipe.
Gutierrez, Salvador.
Mayorga, Coronado.
Montalbán, Venancio.
Osepo, Vicente.
Valladares, Paula.
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Alvarado, Federico.
Alvarado é Hijo, Pedro J.

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Arguello & Prado.
Baldonado, Salomé.
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Boyes, P. R.
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Eisensteick & Co., P.
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Moreno, Federico.
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Perez, Juan.
Poten, Schubert & Co.
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Paints and varnishes.

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Alemán, P. E.
Barrios, M.
Boquín, Francisco.
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Gutierrez, Camilo.
Herdocia, Francisco L. de.
Mayorga, Cleto.
Peter, Alberto, y Ca.
Robelo, Luis S.
Saenz, Jenson.
Sarria, José.
Torres, Aurora.

Silversmiths.

Argeñal, Francisco.
Quiñones, Andrés.
Zamora, José.
Zapata, Gregorio.

Special manufacturers.

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Booksellers and stationers.
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Campo, Francisco.
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Druggists.
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Bustamante, L.
Cabrera, Rafael.
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Groumeyer, P.
Medrano, Mauro.
Ramirez, Jerónimo.
Vega, Francisco.
Velasquez, Márcos E.

Engraver.
Montes de Oca, J.

Exporters coffee, hides, dyewoods, etc.
Argüello, P. P.
Bengoechea, J. C.

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Frixione, Daniel.
Gomez, Luciano.
Groumeyer & Co., P.
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Mejía, Bernabe.
Mejía & Marenco.
Ortiz, Pedro.
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Peter & Co., Alberto.
Ramirez, Alberto.
Ramirez, Pedro R.
Remotti, Alessandro.
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Fonseca, Gabriela.

Importers of drugs and chemicals.
Bengoechea, Dr.
Bravo, Dr.
Cajina, Cleto.
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Borge, Carlos.
Campo, Francisco.
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Hernandez, Zacarias.
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Ingalls, W.
Jansen, Carlos.
Jericho & Co., Guillermo.
Lola, Francisco.
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Maritano, Fernando.
Martinez, Tomás.
Mejía, B.
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Photographer.
Maritano, Fernando.

Planters of coffee.
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Castrillo, Salvador.
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Cuadra, Asunción.
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Chamorr, Salvador.
Frixione, Daniel.
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Lacayo, Lisímaco.
Lacayo, Pánfilo.
Navas, Vicente.
Portocarrero, Bernabé.
Portocarrero, Fernando.
Saenz, Luis & Ramón.
Solórzano, Antonio.
Solórzano, Ramón.
Tritione, Daniel.
Vega, Juan.
Vigil, Vicente.
Zelaya, Santos Francisco.

Printers.
Arias, Juan P.
Burgos, Guadalupe.
Castillo, Justo J.
García, Manuel M., Pío M. T., Félix y F.
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Hernandez, J.
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Elizondo, Benjamin.
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Rivas, Rafael A.
Robleto, J. Angel.
Saenz, Adán.
Sivan, Juan R.
Wells, Dolores S. de.

Silversmiths.
Silva, Silvestre.
Solis, Bruno.

Watchmakers and jewelers.
Bárcenas, Joaquín.
Portugués, Juan J.
Robleto, T. A.

Wholesale export and import merchants.
Adam, José.
Bahlike, Julio C.
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Chamorro, Salvador.
Cuadra, J. de la Paz.
Estrada, Dionisio.
Gabarrete, Máximo.
Gabarrete, Agapito.
Giusto, Pablo.
Jansen, Carlos.
Jericho & Co., Guillermo.

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Lacayo, Lisímaco F.
Larios, Gilberto.
Low, H. E.
Macauley, D. Bernard.
Morales, Francisco B.
Murray, D. L.
Ortiz & Co., Pedro.
Peter & Co., Alberto.
Robleto, José Angel.
Saenz, Adán.
Solórzano, Z. Francisco.

Wood merchant.
Moreira, E.

MASAYA.

Boots and shoes.
Abaunza, Justo.

Commission merchant.
Carrión, Fernando Z.

Druggist.
Argüello, L.

Exporters, coffee, hides, and dyewoods.
Cardoza Hnos., Ignatius.
Oquel, Luis.
Ortega, Luis.
Pimental, Gil.
Ramirez, Mercedes.
Rosalez, Claudio.
Ximenes Hnos., P.
Zelaya, Benito.

Importers of drugs and chemicals.
Baca, José A.
Bolaños, Alejandro.
Cesar, Julio.
Ruiz, Pedro J.
Wasner, Francisco.
Zequeira, Anselmo.

Importers of general merchandise.
Abaunza, Benjamín.
Arceyut, P. Joaquín.
Brenes, Fernando.
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Carrión, Fernando Z.

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Importers of general merchandise—Cont'd.
Castrillo, Petrona.
Lacayo, Luis Felipe.
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Lopez, Blas.
Luna, Audato.
Martinez & Co., Dolores.
Martinez, María de J.
Martinez, Tomás.
Molinares, Carlos B.
Nuñez, Carmen.
Prado, Jacobo.
Solórzano, Enrique.
Züñiga, Francisco.

Import and export merchants.
Cardoza y Hnos.
Cesar, Octaviano.
Climie, Wm.
Lacayo, Mariano.
Martinez, Tomás.
Nuñez, Filadelfo.
Nuñez, J. A.
Oreamuno & César.
Pimentel, Gil.
Rosales, Leandro.
Solórzano, Carlos.
Solórzano, Federico.
Vega, Antonio.
Zurita, Rafael.

MATAGALPA.

Druggist.
Alanis, L.

Importer.
Chavez & Hijo, Ignacio.

MOMOTOMBO.

Merchant and manufacturer.
Argüello Peñalva & Co.

NUEVA SEGOVIA.

Importers, general.
Alvarado, Teodoro.
Irias, Benito.
Irias, J. Nicolás.
Jarquín, Fernando.
Lovo, T. Pastor.

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Boots and shoes.
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Morazán, Juan.

Retail general merchants.
Calderón, Francisco.
Irias, Benito.
Irias, J. Nicolás.
Jarquín, Fernando.
Paguaga, José María.

Silversmith.
Villacorta, Juan V.

Wholesale merchants and importers.
Alvarado, Teodoro.
Lovo, Pastor.

POTOSI.

Retail general merchants.
Abarca, Apolinar.
Lemus, José.

REALEJO.

Merchants.
Brennes, Pedro.
García & Deshon.
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Navarro, Pantaleón.
Thompson.
Von Muller & Co.

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Wholesale import and export merchants.
Pictora, Alcine.
Smith, Enrique.

RIVAS.

Banker.
Maliaño é Hijos, María V. de

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Galarza, Leandro.
Hurtado, Jerónimo.
López, Saturnino.
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Grocers.

Carmona, Juana.
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Import and export merchants.

Abellán, José.
Arbayo, Basilio.
Betela, Manuel.
Carazo, Manuel A.
Fuentes, Virginia Torres de.
Gabuardi, Camilo.
Gomez, Santos.
Goodman, H.
Jimenez & Co., Torres.
Lopez & Maliaño.
Maliaño, Dr. Donoso.
Maliaño é Hijos, Maria D. de.
Marín, Felipa.
Martinez, Nemesio y Luis.
Medina, José J. de.
Padilla, Francisco.
Paniagua, Dolores.
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Zapata, José.

Importers of drugs and chemicals.

Botica Central.
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Watchmaker and jeweler.

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Importers, general.

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Pellas, J. A.
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SAN JORGE.

Importer.

Marín, Felipe.

Retail general merchant.

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Murray, D. L.
Sacasa, Daniel.

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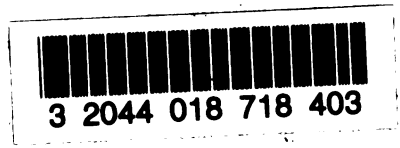
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